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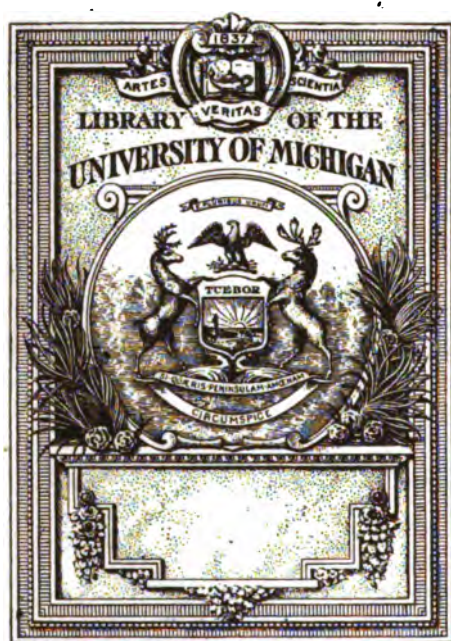
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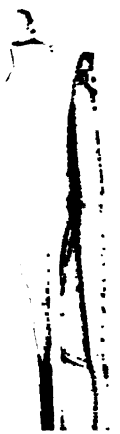
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HEALTH AND DISEASE

IN RELATION TO

MARRIAGE AND THE MARRIED STATE

A Manual Contributed to by

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XIV

Gonorrhœal Diseases in Relation to Marriage

Health and Disease
in relation to
Marriage and the Married State

XIV

GONORRHOËAL DISEASES IN RELATION
TO MARRIAGE

By Professor A. Neisser (Breslau)

Object and purpose of marriage.—We regard as the object and purpose of marriage:

(1) The legitimate gratification of the sexual desire which is rendered possible by conjugal cohabitation. Public opinion as well as law-books speak of the "duties" to be fulfilled during the married state.

(2) The procreation of offspring, which is necessary for the purpose of continuing the human species in general and the family in particular, but which also meets a psychical want on the part of the parents and particularly on the part of the mother. It is evident that it lies in the interest not only of the parents, but also of the State that the after-coming generations shall be physically and morally sound.

(3) An increase in the reciprocal happiness which can be obtained by close companionship and by the sharing of all joys and sorrows, and an increase in their usefulness in the merely human as well as civil spheres of the persons united in matrimony. With this is associated the obligation to maintain the family and to educate the children into good citizens and productive members of human society.

If from such a consideration of the duties imposed upon man by the married state, it becomes evident that diseased individuals should, generally speaking, not be allowed to marry

at all, because they are not in a position to fulfil all the objects of marriage mentioned above, this conclusion applies with the greatest force to the sexual diseases in particular.

Dangers of sexual diseases.—Not only is the purpose of marriage here endangered or rendered impossible of realisation by the fact that one of the contracting parties enters into it in a diseased condition, but the further risk is added that the other partner will, in virtue of the communicability of the disease, also be attacked, and that the object of the union will thus be entirely or partially frustrated by the illness of *both* partners. It is even possible for a complaint acquired in a first marriage to render a second one impossible. An aggravating psychical element is furnished by the circumstance that the disease acquired by the infected partner through contagion is not regarded, like any other illness as an unfortunate affliction, but that a feeling is engendered instead, which, if it does not always actually lead to an outward dissolution of the marriage, causes at least an inner estrangement which often destroys the happiness of the union for good. Though the partner bringing the disease into the marriage is often “morally” excused, because he was not aware of his illness and of the consequences springing from it, or because he regarded himself on the strength of medical advice as a fit subject for marriage, there yet remains for the other partner, who has acquired the disease through infection, the fact and the knowledge that the party who was already suffering from the complaint before the marriage is the cause of his—or her—illness, even if the word “guilt” is not always mentioned.

There is hardly another disease dealt with in this book—not even syphilis—that has such far-reaching and momentous consequences for the married state, as gonorrhœa.

Especial danger of gonorrhœa in marriage.—In the first place gonorrhœa is an eminently contagious disease, the infection taking place almost exclusively by means of sexual intercourse.

The contagiousness may, moreover, last for months, or years, and yet the phenomena from which the contagion proceeds may be so slight, that the presence of the still existing infec-

tious disease can be recognised by the most careful observation only and by special examinations undertaken for that particular purpose.

Secondly, gonorrhœa attacks principally, and in most cases almost exclusively, those organs which are entrusted with the sexual functions, so that there is a disturbance in, or a destruction of:

(a) the capability to procreate or to give birth to descendants, the *potentia generandi* in the man, the *potentia gignendi* in the woman; (b) the power to perform coitus, the *potentia cœundi* of the man.

Finally, however, there supervene severe complications and sequelæ which may lead to permanent bedridden infirmity, inability to do any work or follow an employment; valetudinarianism and extreme nervous disturbances; all diseases which interrupt most materially the happiness of an harmonious marriage, but which result often enough also in most serious troubles to the maintenance and support of the family, thus causing dire distress.

The consideration which gonorrhœa deserves on account of these melancholy consequences with regard to the subject of marriage is in so far the greater as it is one of the most prevalent diseases to which mankind is subject, and as it certainly is not, in point of frequency, surpassed by any other disease, if we take into account the age at which marriage generally takes place. All statistics show that of the venereal diseases which come under the notice of medical men anywhere, at least 50-70% of all the cases are represented by gonorrhœa; and this in spite of the fact, that gonorrhœa particularly, more so than syphilis and the contagious ulcerations, escapes very often statistical utilisation, partly because the patients (in very numerous cases) do not seek medical advice, and partly because the sequelæ produced by gonorrhœa are not always recognised in their true etiological connection. The assertion that of the adult male population inhabiting large towns permanently or temporarily, only an insignificant proportion escapes gonorrhœal infection, is probably, extreme as it may sound, not at all exaggerated.

And yet it is just this very prevalent disease—the importance of which is underrated more than that of any other—which is hardly noticed, and which is either not treated at all or only improperly and insufficiently. No wonder there is a large number of uncured cases, or in other words, of cases which possess full infectiousness, but which do not constitute a disease in the eyes of the persons affected.

Gonorrhœa is, as is well known, either a disease which remains localised in the seat of infection, or one which spreads over various organs in the shape of complications and metastases. It is not, however, a “constitutional” disease which modifies the tissues and juices, and hence we know nothing in connection with it which could in any way be interpreted as “immunity.” But it is in this very circumstance that there lurks a danger from gonorrhœa to the married state, the important fact being that the same individual may often be again attacked by the disease, and withal, later in life when about to marry or when already married, notwithstanding that he has in his younger years had one or more attacks of the infection.

A further factor is the ease with which the disease is conveyed to other persons. It is sufficient that the infective gonococci should come in contact with a suitable, though quite healthy mucous membrane, and that they should be deposited upon it—without any injury to its surface—for these micro-organisms to multiply and subsequently to penetrate into the tissues, and thus to give rise to the disease. There is consequently even no need for the accomplishment of the sexual act in order to cause infection; the simple contact of the two respective genital organs or the moistening of these organs with a secretion containing gonococci is sufficient.

It is clear that the danger of infection is greater, the greater the quantity of gonococci still present. For this reason chronic gonorrhœas are always less serious than the acute ones, and not infectious every time there is sexual connection. In the married state, however, there is a danger in every case, since, on account of the frequency of the intercourse, even a few gonococci still present must eventually become active, particu-

larly as frequent coitus (such as is indulged in during the first few weeks of married life, perhaps, after a long abstention previous to marriage) is in itself sufficient to lead to an increase of inflammatory manifestations in, and consequently to a multiplication of, the gonococci.

Import of the two sexes.—Are the two sexes affected to the same extent by the injurious consequences to the married state just mentioned? There is no doubt that on the whole the danger proceeds more from the husbands than from the wives. But there is in this direction a very material difference according to the social position of the men and women.

Frequency of gonorrhoea in men.—As regards men, it may be said that the preponderating majority of them—it would be perhaps more correct to say, with very few exceptions,—without distinction of social conditions, rank or education are in the habit of indulging in sexual intercourse before marriage and that they are consequently subject to the danger of venereal infection. The risk of infection is not however the same for men of all classes. It is certain that those belonging to the better and richer circles (merchants, officers, students, etc.) are attacked in proportionately far greater numbers than those belonging to the lower strata (workmen, soldiers, etc.). The prevalence of venereal disease among males is always greater in proportion to the extent to which they are forced through circumstances to resort to intercourse with mercenary prostitutes. Workmen, soldiers, and so on, can more easily find non-prostitute girls of their own class willing to enter into amorous relations with them which result in sexual intercourse, and they are therefore less exposed to the danger of infection than those men who have recourse almost exclusively to prostitutes who lend their charms for gain.

On the other hand the dangers to the married state arising from men of the better classes are not so great as those emanating from men of the lower social scale, and this applies both to the time when the marriages take place as well as throughout the married life. The better knowledge of the

medical aspect of the question which prompts the more affluent members of society to seek, and subject themselves to, proper treatment, contributes in no small measure to the real cure of more gonorrhœal cases among them than is the case among uneducated men who concern themselves but little about their diseases as soon as the latter cease to cause them real trouble. There is also an additional danger in the fact that individuals of the lower classes marry as a rule earlier than those of the upper classes, and that many young men of this description enter married life with their gonorrhœas in an active state. Among hospital out-patients fresh attacks of gonorrhœal infection in married people are also seen far more frequently than in private practice. To what extent a different conception of "morality" among the two classes is responsible for this difference in the number of infections acquired extra-conjugally by the two classes of men, it is difficult to say. In any case, there is the factor to reckon with, that married men belonging to the working-classes have in such cases as a rule recourse to street-walking prostitutes, while the married men of the better classes, who know too well the danger of prostitution and are in a position to pay for better-class female intercourse, are more in the habit of visiting the less dangerous "demi-monde" or of indulging in the luxury of keeping a mistress.¹

Frequency of gonorrhœa among females.—

Now, with regard to the poorer and lower classes, it is noteworthy that many girls belonging to them undoubtedly enter the married state in an infected condition, acquired previous to marriage. While gonorrhœa hardly ever occurs among girls of the higher classes—the relative infrequency of pre-nuptial sexual intercourse naturally protects these girls from venereal

¹Translator's Note: This description is no doubt accurate in every detail for the continent of Europe. It does not however apply, in my opinion, to England. From a fairly extensive experience, I can say that gonorrhœa among married men of the working-class is very rare indeed, unless it is a relapse of an infection which existed previous to marriage. By close questioning I have nearly always been able to establish the latter point. On the other hand, I am sorry to have to say, that of the fresh cases which come under my notice a very fair proportion—about 20%—are those of married men, presumably belonging to the better classes.

infections as well—we have to take into account among those on the lower scales of the social ladder a far more frequent, and often even regular sexual intercourse, the natural result of which is that those who are in the habit of associating sexually with several men, are often infected with gonorrhœa.

We must even take it for granted with the utmost certainty that the number of female persons thus affected with gonorrhœa is not inconsiderable, at any rate it is far greater than that shown by statistics. The difference between the number of gonorrhœally-diseased men and that of gonorrhœally-diseased women, as revealed by statistics, is so enormous, that it cannot possibly agree with the real distribution of the disease among the two sexes, even if we are prepared to admit unreservedly that, as a matter of fact, absolutely far more men suffer from venereal disease than women, because a large number of men derive their disease from a small number of prostitutes, each one infecting several men. That the statistics relating to gonorrhœa in women are so imperfect is easily explained. In the first place it is to be considered that the absence of all symptoms especially in infections of the cervix, and in urethral forms, leaves the patients as a rule ignorant of their illness, and causes them to refrain from seeking medical advice. Moreover, though they do feel ill, women are often prevented by shame and reticence from subjecting themselves to medical examination and treatment. But even the severe ascending forms are frequently not included among cases of gonorrhœa, because the real cause of the "internal" complaint is not recognised. How many cases of female gonorrhœa escape observation can also be judged from the frequency of blenorhœa neonatorum in children, whose mothers had never before been under treatment for gonorrhœa.

Statistical observations on gonorrhoeal diseases. —An indication of the prevalence of venereal diseases, and especially of gonorrhœa, in both sexes, which we are now discussing, is furnished by figures which are extracted from the 20th supplementary volume of the "*Zeitschrift des Königlich Preussischen statistischen Bureaus.*" At the instigation of *Schmidtman* a statistical tabulation of the distribution of vene-

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real diseases in Prussia was instituted on April 30, 1900 on the part of the Prussian Board of Education, the results of which were published by *Guttstadt* in the above-mentioned publication.

The question-forms related to the ascertainment of the number of patients under treatment from April 1, 1900 up to and including the 30th of that month, and were answered by 63.45% of the medical men.

There were returned on the 30th April as venereally diseased:

30,383 men corresponding to 28.2 per 10,000
adult men,
10,519 women corresponding to 9.24 per 10,000
adult women,

figures which show a very considerable difference between the two sexes.

As regards gonorrhœa, there were returned on the 30th April, 1900:

16,676 men, equal to 54.89% of the venereal
diseases observed in men,
5,295 women, equal to 50.34% of the venereal
diseases observed in women.

These figures show that of the venereal diseases gonorrhœa plays in both sexes the same part.

Calculated in proportion to the entire population, we have on the other hand:

15.48 gonorrhœas per 10,000 adult men,
4.68 " " " " women.

If we take however, the figures of venereally diseased persons under treatment in all the hospitals of Prussia in the course of the year 1899 we find almost equal numbers of men and women, namely:

15,181 men and 14,405 women.

Neither do we find a very great difference between gonorrhœic women and gonorrhœic men, namely:

Of 15,181 venereally diseased men there were
6,790 with gonorrhœa = 44.72%.

Of 14,405 venereally diseased women there were
5,609 with gonorrhœa = 38.93%.

This fact of an apparently equal prevalence among the two sexes assumes, however, a different aspect, when we learn that of the whole number of women under treatment no less than 5,489, in other words, 38.19% were prostitutes.

The conditions observed in sick-clubs are very interesting.

1. Berlin Industrial Sick-Club.

Per 10,000 male and female members respectively there were:

In the Year	Venereally Diseased		Gonorrhœally Diseased	
	Men	Women	Men	Women
1892	490.9	302.1	309.1	135.0
1893	550.1	305.2	352.6	175.5
1894	554.8	92.2	353.2	47.4
1895	549.0	63.0	367.9	35.1
1896	655.2	136.6	443.1	93.9
1897	619.0	171.6	403.5	99.8
1898	687.5	134.9	412.0	69.0

A comparison of the figures discloses in the course of years a steady increase in the number of the men, and a corresponding decrease in the number of the women; which is perhaps an indication that the men of the labouring classes are also beginning to have intercourse more with prostitutes and less with girls of their own station in life.

The striking fluctuations in the figures relating to the female members show how very little reliance can be placed upon the figures altogether, and what a slight indication they offer as to the prevalence of venereal diseases generally, and gonorrhœa especially.

2. Halle o/S. 38 Sick-Clubs.

- 1897: 22,060 members (men and women) included
266 venereally diseased.
- 1898: 22,778 members (men and women) included
244 venereally diseased.
- 1899: 23,897 members (men and women) included
257 venereally diseased.
- 1897: Of 100 venereally diseased 93.61 were men
and 6.39 were women.
- 1898: Of 100 venereally diseased 92.62 were men
and 7.38 were women.
- 1899: Of 100 venereally diseased 92.61 were men
and 7.39 were women.
- 1897: Affected with gonorrhœa were 193 men and
7 women, together 200 members.
- 1898: Affected with gonorrhœa were 175 men and
9 women, together 184 members.
- 1899: Affected with gonorrhœa were 180 men and
8 women, together 188 members.

3. Frankfort o/M. Sick-Clubs in 1896.

Here we find contrary to other observations a fairly equal prevalence of venereal diseases among the two sexes:

- 45,760 male members included 1493 venereally
diseased. Per 10,000 male members 326.27.
- 16,190 female members included 518 venereally
diseased. Per 10,000 female members 319.95.
- 61,950 members altogether included 2011 vene-
really diseased. Per 10,000 members 324.62.

The conditions are different in regard to prisons, and especially penal establishments with comparatively high percentages of sick females, which can be explained by the supposition that there are among them very many old prostitutes, both controlled and "secret" ones, and that the principal fallacy underlying all the statistics relating to women, namely that the disease is overlooked does not apply in this case, owing to

Gaols.

	Years					
	1894/95	1895/96	1896/97	1897/98	1898/99	1899/1900
For venereal diseases there were treated altogether . .	482	430	421	441	297	294
Of 100 venereally diseased there were:						
Men	69.50	70.00	75.77	80.50	80.13	78.91
Women	30.50	30.00	24.23	19.50	19.87	21.09
For every 10,000 men and women, respectively, there were venereal:						
Men	85.32	79.71	95.31	95.51	69.66	62.41
Women	166.91	152.54	147.74	117.84	58.11	56.83
From gonorrhœa, etc., there suffered altogether	404	313	267	309	221	189
Men	289	229	243	283	187	174
Women	115	84	24	26	34	15
Of 100 affected with gonorrhœa there were:						
Men	71.53	73.16	91.01	91.59	84.62	92.06
Women	28.47	26.84	8.99	8.41	15.38	7.94
For every 10,000 men and women, respectively, there were affected with gonorrhœa:						
Men	73.61	60.64	72.60	76.14	54.73	46.81
Women	130.58	99.30	34.76	35.63	33.48	13.75

Penal Establishments.

	Years					
	1894/95	1895/96	1896/97	1897/98	1898/99	1899/1900
For venereal diseases there were treated altogether . .	430	458	254	173	149	154
Of 100 venereally diseased there were:						
Men	68.37	61.57	66.93	55.49	67.11	63.64
Women	31.63	38.43	33.07	44.51	32.89	36.36
For every 10,000 men and women, respectively, there were venereal:						
Men	112.17	109.97	68.90	45.04	45.79	46.40
Women	296.75	378.09	181.31	211.77	138.42	160.18
From gonorrhœa, etc., there suffered altogether	342	311	133	99	66	74
Men	242	188	83	52	50	49
Women	100	123	50	47	16	25
Of 100 affected with gonorrhœa there were:						
Men	70.76	60.45	62.41	52.53	75.76	66.22
Women	29.24	39.55	37.59	47.47	24.24	33.78
For every 10,000 men and women, respectively, there were affected with gonorrhœa:						
Men	92.33	73.31	33.64	24.40	22.89	23.20
Women	218.20	264.23	107.92	129.26	45.20	71.51

the compulsory examination of all the inmates. It is of course difficult here also to account for the enormous fluctuations.

The following items are extracted from some statistics on the prevalence of venereal diseases in Breslau which I collected in the year 1896 by means of questions addressed to all the medical men of that town:

Replies were received from 81.5% of the medical men who were written to, and altogether 7,685 persons were reported as venereally diseased, 6,940 of whom were residents of Breslau. Of the latter, 3,284 (equal to 8.7% of the population at that time) were affected with gonorrhœic complaints. Among the 3,699 cases of gonorrhœa which were registered altogether, there were only 591 females, and this figure includes 238 prostitutes and 85 women whose gonorrhœa became known only through the blenorrhœic affection of their new-born children.

A further extract from the same statistics shows: Of 3,023 men 398 were married, and 26 alleged to have become infected by their wives. Of the 591 women registered altogether, 85 were declared to be married, and 81 as infected by their husbands.

Let us now return to the consideration of the dangers arising from gonorrhœa to the married state:

I. Danger of gonorrhœal infection in the married state.

Although it really does happen now and then that downright frivolous and almost criminally reckless individuals get married while suffering from gonorrhœa in the acute stage, infecting thereby as a matter of course the other partner, such persons constitute after all only an insignificant minority when compared to the number of infections emanating from cases of chronic gonorrhœa.

Meaning of chronic gonorrhœa.—What do we understand by "chronic gonorrhœa"? Daily observation teaches us that although the bulk of gonorrhœic cases are really cured and a complete *restitutio ad integrum* is obtained

there remain a very considerable number of cases, in which we cannot speak of a perfect cure. Very numerous such cases are left with residues which are recognisable by means of clinical and anatomico-histological examination.

But then experience also teaches us that very many of these "uncured" individuals marry or have been married for years without conveying the gonorrhœa to the other partner.

From this we conclude: Not all these post-gonorrhœic residual affections appear to be—or more correctly said, *are*—infectious; there are among the "uncured cases of gonorrhœa," generally described as "chronic," infectious as well as non-infectious ones.

With respect to the contraction of marriage the question therefore arises: Is it possible to differentiate diagnostically between the two groups of so-called "chronic gonorrhœas" which exist as a matter of fact, and by what means can it be done?

In the front place of the whole consideration we must lay down the following principle: Neither the subjective sensations of the patient, nor the clinical macroscopical phenomena give an indication of the infectiousness of any one particular case.

The most insignificant mucous discharges, of which the patient is not in the least aware, or which he does not feel at all, as well as the alterations in the uro-genital canal, which are accompanied by severe subjective complaints, are either infectious or non-infectious. There may be gonococci left behind in the most unnoticeable, most superficial catarrhs of the mucous membranes, and they may be absent in the most painful stricture-causing infiltrations of the urethra, in painful affections of the prostate, in cystitis, in the most distressing and most dangerous forms of endometritis and diseases of the appendages. Though it is always possible by the phenomena of the last-mentioned group to diagnose that in all probability the disease was originally caused by a gonorrhœic infection, neither the clinical symptoms nor the demonstrable pathological changes offer any evidence whether that infectious gonorrhœic disease is still present, or whether we have

before us nothing but residual inflammatory conditions which have remained behind, notwithstanding the disappearance of the gonococci; for it is very well possible that in spite of the removal of the primary real cause of the disease, such tissue changes should develop which constitute in themselves, so to speak, fresh infections, although they do not of course possess a progressive character.

It is therefore necessary to subject every individual, who presents any abnormal symptoms derived from a former gonorrhœa, to a special examination for the purpose of ascertaining whether these symptoms are still of an infectious nature. Both doctor and patient cannot be warned with too much emphasis that experience has shown that even the most insignificant processes may retain their infectious character.

Particular stress must be laid upon the circumstance that this infectiousness can continue for years in spite of the absolutely certain exclusion of a new infection; practically speaking we must at any rate take it that the gonococci are capable of a vitality extending over many years.

It is believed in many quarters that the gonococci found in chronic gonorrhœas gradually diminish in virulence. Whether this supposition is right or not—it cannot be said to be proved with certainty—it has not from a practical point of view, that is for the estimation of each individual case, the slightest value. For, opposed to the view, that such a diminution in the virulence is possible, we have the fact to reckon with that most acute and most malignant gonorrhœas have been caused by infection from chronic gonorrhœas. We cannot therefore place any reliance upon this hypothesis for the purpose of judging any one case in particular, but must always ask ourselves the question: Are any gonococci present at all or not?

This is the question which forms the pivot round which the problem turns whether marriage should be permitted in the presence of gonorrhœa, and my opinion is most decisively to the effect that the examination for gonococci alone enables the physician to say whether that permission should be given or withheld, and that the latter alternative must be adopted

in every case without regard to the clinical aspect, be that aspect favourable or unfavourable, if gonococci are found to be present.

Positive results of examination for gonococci.—It is perfectly clear that all those cases in which the examination for gonococci discloses a positive result, are evidence in favour of the correctness of the principle laid down above. Numberless cases are declared every year as "infectious," which would formerly have been regarded as most harmless and insignificant cases of urethritis, and in respect to which every physician would have readily given his consent to a contemplated marriage. Nobody denies, in fact, that the positive finding of gonococci must needs result in a strict prohibition of marriage.

Negative results of examination for gonococci.—But how about those cases in which gonococci are not found? Does the "negative" fact that the physician could not detect any gonococci, like the "positive" fact that there really are no gonococci, prove as strongly that an infection of the one married partner by the other is indeed out of the question?

It is very evident that even the most careful examination does not preclude the possibility of mistake, and it must be admitted that it is never possible to assure a candidate for marriage without the shadow of a doubt that an infection will not proceed from him under any circumstances.

Does it, however, follow that because we cannot with a 100% certainty assure such candidates for marriage of their non-infectiousness, we are under the necessity or entitled to withhold our consent to the marriage of every individual who suffers from a chronic post-gonorrhoeic urethritis?

Consent to marriage.—In my opinion, the very numerous cases in which individuals with chronic urethritis have married without causing any mischief, are proof positive that there are very many cases of uncured urethritis which are not infectious. It would have been wrong to have refused the consent to the marriage of all these patients on the strength of the above theoretical reasoning.

I am therefore convinced that the proper course to pursue is to make the examination for discovering the presence of gonococci as searching as possible and to act accordingly, as we should then be guided in our opinion not by theory alone, but also by practical conclusions. Moreover, experience has taught me and many others—*Jadassohn, Harttung, Herxheimer, Loewenhardt, Schäffer, Neuberger*, and others—that this attitude is the right one, since as a matter of fact the number of mistakes which have been made, notwithstanding the application of all the methods which are at the disposal of science, is practically nil. It is true that the physician who refuses on principle to give his consent to the marriage of individuals suffering from a gonorrhœa which is not quite healed, will never be made responsible for any gonorrhœal infection which may be conveyed afterwards to the other partner, but then he is sure—if his advice is accepted by the patients in every case—to make marriage impossible to numerous men who might have married without bringing any risks upon their wives.

In the first case he may, perhaps, save from infection one woman out of a thousand; in the second, however, he may unjustly condemn to celibacy hundreds of men.

But those are apparently more consistent who, while refusing to take up the same standpoint as myself, proclaim that it is possible to permit marriage only if the gonorrhœa is completely cured, and especially if an entire disappearance of the urethral threads and floccules from the urine has been achieved. They refuse their consent to the marriage in every case of uncured gonorrhœa, without regard to the presence or absence of gonococci, and demand first the absolute disappearance of all the clinical phenomena.

It must undoubtedly be admitted that wherever this can be achieved it is possible to say with absolute certainty that an infection from an individual thus situated is entirely out of the question. And yet I cannot share this view for the very sad, but to me conclusive, reason that this complete cure, in other words, a complete removal of all the clinical appearances cannot by any means be accomplished in regard to the

great majority of the cases affected with chronic urethritis. It stands to reason that I also have endeavoured by all the methods at my disposal to cure every case of chronic urethritis. But though I have succeeded now and then in my object, in the majority of the cases every possible treatment was of no avail. I am however in a position to add that I know also of very numerous cases in which those physicians who allow their consent to the marriage to depend exclusively upon the complete cure of the clinical symptoms, have also failed to cure their patients: for many years therefore I have taken up the standpoint that I allow myself to be guided in the determination of the infectiousness of chronic affections of the urethra, and consequently in the settlement of the principal and most frequent point in connection with the marriageableness of individuals with old uncomplicated gonorrhœas, solely by the presence or absence of gonococci. As long as gonococci can be proved to be present, or as long as their presence must be regarded as probable, the consent to the marriage must decidedly be refused, and the treatment continued with all energy and by all the means at our disposal until the presence of gonococci can be excluded. From this point of view the treatment cannot at all be carried out energetically enough and long enough.

But where I have obtained what I consider to be a firm conviction that gonococci are no longer present, I permit myself to be guided with respect to further treatment and attempts at cure by the clinical condition.

Uncomplicated, superficial cases of urethritis which proceed without any special complaints I either leave untreated, or else I treat them—more to satisfy the wishes of the patients—with mild astringents, for the purpose of ameliorating the generally insignificant inflammatory symptoms, the formation of mucus and the discharge of epithelium. Where there are demonstrable local lesions, strictures, chronic prostatitis, diseases of the bladder or disturbing subjective complaints, they are of course subjected to most careful and appropriate treatment.

In themselves, these phenomena are as a rule not of a

nature to dictate a refusal of the consent to marriage; in isolated well-marked cases, this may naturally be the case, as we shall see later on.

In the methods of investigation which we apply in order to differentiate by the examination for gonococci between the infectious and the non-infectious diseases of the uro-genital tract, we have to overcome the following difficulties.

Difficulty of diagnosis.—1. In the chronic cases there are almost always only very few gonococci present. It may, of course, happen that in chronic gonorrhœas there may take place owing to some accident (frequent and rapidly repeated sexual intercourse, irritation by alcoholic excesses, in women in association with menstruation) simultaneously with the increase in the inflammatory appearances, an increase also in the number of gonococci, but this is not absolutely necessary, and it is quite possible, in spite of severe inflammations of such a nature as to suggest a fresh infection, for the gonococci to remain very sparse.

Since there is not under such circumstances a diminution in the biological peculiarities of the gonococci, it follows that these non-multiplying gonococci which have apparently also been deprived of their power to cause suppuration, possess full virulence and also a capacity for producing suppuration, if transferred to some other mucous membrane.

2. But the gonococci are in chronic cases not only difficult to find on account of their scarcity—even in a large number of microscopical preparations it is possible for the few small heaps of double cocci, lying perhaps extracellularly or singly, to escape observation easily,—but also because in most cases of chronic urethritis there are also millions of other bacteria present, small and large bacilli, and also cocci, which naturally make the finding of the gonococci lying between and mixed up with them uncommonly difficult or even downright impossible.

3. Among these urethral parasites there are found occasionally diplococci which are remarkably alike to the gonococci, so that the point whether some kind of diplococci are really genuine gonococci presents sometimes very great difficulties.

If we possessed an absolutely specific staining-method, such for instance as the one for tubercle bacilli, the differentiation between gonococci and gonococci-like diplococci would naturally be much easier.

It has been asserted by some authorities that the gonococci change in regard to their forms and that they can assume quite uncharacteristic appearances of degeneration without losing thereby their capacity for multiplication and their virulence, making it in this way possible for gonorrhœa-producing bacteria to pass unrecognised on account of the absence of all their morphological peculiarities. I have never been able so far to satisfy myself about the existence of such forms of degeneration. It is true that gonococci are constantly perishing in cultivation-media and probably also on the mucous membranes of the patients, and that we come across all sorts of decaying forms. But then these have generally lost their power of multiplication also, and we have before us consequently harmless bacterial residua which are no longer capable of causing any infection.

4. The scanty gonococci present in a genital tract are not always accessible for examination, because they are not mixed with the superficial secretion employed in the preparation of microscopic specimens or cultivations. It is therefore part of the examiner's duty to discover all the hidden recesses into which gonococci may have crept and to subject the secretions contained in them to careful investigation.

Provocation.—In the case of men it is therefore necessary to examine not only the superficial secretion of the anterior urethra and that of the posterior urethra—if possible separately—but to endeavour also to bring to light the secretion situated in the crypts between the folds of the urethral mucous membrane, and to examine it. At any rate it is advisable by massage from the rectum to express the prostate and if at all possible, also the vesiculæ seminales. Careful search must be made for the existence of preputial and para-urethral passages, of fistulæ and small abscess-cavities. In special cases it may be necessary with the help of the endoscope to look also for gland-like epithelial swellings lying in the urethra and to subject their

secretion to examination, especially if it is possible by external palpation of the urethra to demonstrate anywhere more or less circumscribed infiltrations and nodules.

But apart from these out-of-the-way recesses in which gonococci may be situated, the latter may also find a location underneath the superficial epithelial layers, and possibly even in the uppermost parts of the connective tissue, so that a secretion obtained from the surface exclusively will not contain such gonococci lying latently in the deeper layers.

In women gonococci may lie hidden between the folds of the wide urethra; also, in the cervical canal, in deeper layers of the epithelium, finally in the body of the uterus and perhaps even higher up in the appendages, without there being any gonococci demonstrable in the preparations made with the cervical secretion. The rectum is also frequently the seat of a gonorrhœa without such symptoms as to attract the special attention of the observer to this complication. In addition, there are also to be taken into account the small mucous glands and particularly the duct of *Bartholin's* gland in the vaginal entrance.

Diagnosis by the aid of the gonococcus.—I do not propose to discuss here at length the question of diagnosis by gonococci. It is known that we make a diagnosis of gonococci from the microscopical picture and with a suitable staining:

1. From the form of diplococcus; that is, the microscopical specimen shows almost always two cocci lying like coffee-beans close to one another, very often not only as one pair, but in groups of two, four and eight pairs.

2. From the intra-cellular position wherever there are leucocytes in anything like abundant numbers. It must however be borne in mind, firstly that gonococci occur extra-cellularly also, and secondly that other bacteria may also be located intra-cellularly.

3. From the peculiar size. It seems to me superfluous to give here definite measurements. I should like, however, to recommend that a reliable specimen of gonococci, stained, of course, in the same manner as the preparation about to be made, be kept ready at hand for use as a test-specimen in

doubtful cases, with which to compare dubious preparations under the same power.

4. By a definite attitude towards the staining by *Gram's* method. Almost all the diplococci, eventually mistaken for gonococci, are distinguished from the latter by the fact that in applying *Gram's* staining method, they retain the dark violet colour, are not decolourised by the use of decolourising agents, and that they do not, if treated with counter-staining agents, take up the counter-stain. Gonococci, on the other hand, lose the blue-violet colour and take up the counter-colouration, whether the same be instituted with weak carbol-fuchsin solutions, Bismarck-brown or methyl-blue.

I am now in the habit of examining every case of chronic urethritis by means of *Gram's* method. It affords, in any case, from the very beginning, if there are any suspicious diplococci present at all, a much greater certainty whether we have to deal with gonococci or not.

With the technique of the method I am not concerned here. (See on this point, *Scholtz*, Vorlesungen p. 8.) There is only one thing I wish to mention: It is not by any means easy to apply the method, so as to obtain valuable results. Both the preparation of the specimens, as well as the technique of the staining demand the knowledge of a mass of details which renders a certain amount of practice indispensable!

On the utilisation of cultures for the verification of the gonococci or for differential diagnosis from diplococci, I will say something later on.

Experiments on animals are of no avail with respect to the question which interests us here, and require at any rate from a practical point of view no consideration at all.

So as to overcome the difficulties enumerated above, which stand in the way of a correct diagnosis, I adopt the following method of examination:

Survey of the method of examination.—The patient is asked to come for the purpose of being examined with the bladder as full as possible, and microscopical specimens are prepared separately from the anterior urethra, the posterior urethra and the prostate. The secretion from the

anterior urethra is obtained by smartly squeezing the pars anterior penis. After that, the entire urethra as far as the sphincter is thoroughly irrigated by repeated injections from a fairly large syringe holding at least 20 ccm., or better still through a thin catheter, introduced as far as the sphincter, which is attached to an irrigator containing a 3% boric acid solution; the irrigator is held up or suspended fairly high, and the washing process is continued so long as there are mucous or other particles contained in the irrigating liquid. The patient is afterwards instructed to pass a small quantity of urine which if there is no cystitis present is clear and transparent, but which carries along with it the flocculi, threads and mucous constituents situated on the mucous membrane of the posterior urethra. If the threads are large enough so that they can be fished out by means of a platinum needle, specimens are prepared from them. But if the threads and floccules are small, the liquid is centrifugalised thoroughly and the sediment thus obtained extracted for purposes of microscopy. This is followed by a careful massage of the prostate and seminal vesicles, which must, however, be carried out with due regard to an eventual endurance of pain on the part of the patient. Usually there is at once a secretion to be seen at the external orifice, from which specimens are prepared. After that the patient must empty the whole of the bladder, when the urine will contain the entire secretion which was pressed out from the prostate into the urethra. From this portion also specimens are prepared either by extraction or centrifugalisation.

For some time now we prepare the specimens on slides, as the whole manipulation and the staining can be done far more comfortably on them than on cover-glasses. Especially to those who have to examine every day a large number of specimens, it is of the utmost importance to be able to save the trouble of mounting the preparations in Canada-balsam and of arranging the cover-glasses. If the slide prepared with the secretion is dried after the completion of the staining process, there is nothing further to be done but to place the oil required for the oil-immersion on the slide and to immerse the lens direct into the drop of oil.

The first preparations made from the patient at his first visit, I examine as a rule by the simple methyl-blue staining method. (See the description of the various methods in *Scholtz's* work.) If gonococci are undeniably found to be present, the question of diagnosis is of course at once decided. If I find suspicious diplococci, I examine the specimens stained with methyl-blue, after decolourising them (in hot water), by *Gram's* method; or, what is more advisable, I repeat this examination by the latter method on fresh specimens prepared on a subsequent day.

If no gonococci are found or if the preparations show all possible sorts of other forms of bacteria in large numbers, I first wash out the anterior and posterior urethra most carefully with a solution of oxycyanate of mercury (1:60000) after introducing a catheter, or by *Janet's* method (perhaps, in the morning) and inject some hours afterwards (towards evening) into the anterior urethra a solution producing irritation and suppuration. As a rule I employ for this purpose a 3-5% solution of protargol, to which I add 5% of antipyrin, so as to reduce the subjective complaints to a minimum. The following morning there is then generally found an abundant secretion which is on the one hand purulent in character, and on the other free from the parasitic bacteria which inhabit the urethra and which render the finding of gonococci difficult.

Should there be no gonococci in this secretion either, the same process of irrigation and chemical provocation, is repeated after 2 or 3 days; or instead of the chemical provocation, a mechanical one is instituted either by vigorous expression and kneading of the urethra with a bulbous sound or by dilatation. The introduction of the sound presents at the same time the advantage of an opportunity to form an idea as to the dilatability or presence of localised infiltrations and painful spots. The sound is however not used only for the purpose of provoking an inflammation and suppuration by vigorously turning it about in several directions, but also for the immediate preparation of microscopical specimens. The thorough smoothing of all the folds, the squeezing-out of the crypts and pouches by the bulb of the sound filling the lumen of the urethra,

brings occasionally out some hidden gonococci. Preparations must therefore be made with the secretion adhering to the bulb of the sound and to the portion just behind it.

The idea underlying all these methods is, therefore, on the one hand to remove the superficial bacteria which impede the examination, and on the other to artificially transfer to the surface by chemically or mechanically produced inflammation, gonococci situated in the deeper layers of the tissues, by bringing them into the stream of leucocytes and serum. At the same time gonococci present in small numbers are, perhaps, caused to multiply and to grow by the aid of the greater nutrition-stream, thus rendering it easier to find them. Finally, gonococci, lying in hidden recesses, are mechanically transferred into the secretion and consequently upon the microscopical specimen.

The mechanical provocation produced by many others with the help of dilators has not shown to me that it possesses any special advantages. *Wossidlo* maintains, on the contrary, that clusters of gonococci situated in deeper parts can frequently be laid bare and set into motion only by such dilatation. Whenever I do use dilators, I am not satisfied with one single strong dilatation, but the instrument introduced is constantly screwed on and off, so that a repeated dilatation of the urethra is obtained while lacerations are, of course, in this way avoided.

The secretions obtained in the above-mentioned manner are, as already said, in every case examined most carefully with the aid of *Gram's* method.

Value of culture-method.—I do not, nevertheless, when the question of marriage is under consideration, neglect to make use of the cultivation-method, although I have not met with a single case where I have found gonococci—if they were present at all—by the cultivation-method only, and not also by microscopical examination. But as the possibility is not altogether excluded that a few scanty gonococci-groups may escape observation by microscopical preparations, while the cultivation-method offers a chance to multiply these scanty gonococci into such numbers as to render their recognition more easy, I consider it my duty to make use of this method as well.

In women the microscopical examination appears even to be attended with better results than the cultivation-method. *Baermann* has examined for gonococci by microscope and culture, the urethral and cervical secretions of 393 prostitutes. Of 143 gonorrhœas which were ascertained, only in 5 cases were gonococci culturally demonstrated in which they were not recognised microscopically. It is to be noticed, however, that of each case it was possible to prepare and examine microscopically only two specimens of the urethral and cervical secretion.

But on the other hand, about 25% of the cases in which gonococci were found microscopically, gave a negative cultivation result!

Besides, the cultivation-method is so devoid of simplicity and convenience that only those who are thoroughly familiar with it can make use of it to advantage.

In the first place there is a difficulty about the most suitable medium. In our opinion a really efficient medium is supplied only by liquids formed from human blood-serum, or derived from ascitic secretions, hydroceles or ovarian cysts.

All the more recent and "more simple" media are highly unreliable, or at least just as difficult to preserve and to prepare as serum-agar. We always employ with the best results ascites-agar ($\frac{1}{3}$ ascites-fluid, $\frac{2}{3}$ agar, 1% peptone. *Witte.*)

But to form an opinion from growing cultures is also not easy, especially since we know through *Thalmann*, *Wildbolz*, *Urbahn* and *Baermann* that ascites-agar is not the only agar on which gonococci will grow, and that the appearance of even those gonococci which have grown on the same soil, can be exceedingly variable.

The practitioner will therefore, at any rate, for the present, always regard the microscopical method not only as the most important, but also as quite sufficient for his purpose.

As regards the question how often examinations should be made, in order to consider oneself justified in expressing an

opinion, it is necessary to distinguish between two groups of chronic urethrites:

(1) If the urethritis has already existed for some time, perhaps for more than a year, and if it does not show a tendency to become worse in spite of repeated cohabitations and alcoholic excesses or similar causes, and if the secretion contains principally epithelium and mucus, it is according to my experience very probable that there are no more gonococci present. If in such cases, 3 or 4 provocations caused at intervals of several days, followed by 2 or 3 microscopical and cultural examinations of the urethral and prostatic secretions also show a negative result, I declare myself satisfied that there is no further risk of infection.

(2) If, on the other hand, the secretions disclose a comparatively abundant quantity of pus-corpuscles, if there is a pronounced tendency to exacerbations, associated with subjective complaints, the possibility is nearer at hand that this inclination to acute phenomena is due to the presence of latent gonococci. In all such cases it is necessary to examine the urogenital tract far more carefully, that is, considerably more often.

It is particularly important in such cases to establish further by most assiduous examination with the bulbous sound and with the endoscope whether any local processes are demonstrable in the urethra which can explain the acute inflammatory character of the secretions, apart from the presence of the gonococci.

I am on no account inclined to agree with *Oberländer*, *Kollmann*, *Wossidlo*, *Kromayer*, *Finger*, and others, that the presence of such acute inflammatory conditions or of pus-corpuscles is in itself a proof of the presence of gonococci, and that it is necessary to refuse the consent to the marriage of those patients who show filaments and urethral secretions only, because the latter carry pus-corpuscles in abundance. These phenomena are to my mind an indication that the respective cases particularly require most careful examination; but if the search for gonococci remains continually negative, I believe, on the strength of my experience, that I am able to declare

most categorically that the refusal of the consent to the marriage is unjustified.

From what has been said it follows that the whole method requires very much patience and very much practice. For this reason I particularly recommend that such cases should be entrusted to the hands of such practitioners who make this subject their special branch of practice. Although I am always advocating that every medical man should be taught in his student-days how to treat acute gonorrhœa efficiently from every point of view, and although I am opposed to the idea that the treatment of venereal diseases should form a specialty in itself, the estimation of these chronic cases of urethritis requires such special technicality and practice as cannot possibly be possessed by every practitioner, quite apart from the circumstance that not every medical man can have at his disposal the laboratory arrangements required especially for the preparation of cultures.

Post-gonorrhœic urethritis.—So far we have proceeded from the point of view of estimating the infectiousness of a patient who has formerly had gonorrhœa, according to the presence or absence of gonococci. But the question arises whether the numerous forms of bacteria present in almost every chronic (post-gonorrhœic) urethritis, or one of them, can also have pathogenic qualities and therefore be a source of infection to the married state. The question is the more justified, considering that there are in males non-gonorrhœal bacterial urethrites. Unfortunately this problem is so far not yet solved. It is true that in some diseases of the appendages which have been observed in women married to, or who have just married, men suffering from chronic urethritis, staphylococci and streptococci have been demonstrated in a number of cases. It is not, however, by any means established whether there was in these cases a mixed infection with gonorrhœa in which there remained in the pus, after the destruction of the gonococci, the other bacteria only, or an isolated infection by staphylococci or streptococci, as to which, again, it cannot be said whether it owes its origin to a contagion from the husband or whether it has been produced spontaneously, so to speak,

from staphylococci or streptococci contained in the vaginal secretion.

In any case, however, it is necessary to look into this point more closely. For just as there are, as mentioned, cases of non-gonorrhoeic urethritis and epididymitis, so it is possible that there also are non-gonorrhoeic diseases of the uterus and its appendages.

Chronic gonorrhoea of the wife.—The presence of chronic gonorrhœa in the wife is considerably more difficult to demonstrate than in the husband. I am convinced, however, that here also like in the case of the husband, the microscopical and cultural examination of the gonococci is the only means by which we can, in each individual case, decide the question of a still existing infectiousness. For in women also it is possible for gonococci to be present as yet notwithstanding the absence of all clinical symptoms, or, the other way about, for the gonococci to have disappeared long since in spite of the most pronounced post-gonorrhœal phenomena being still in existence. But I am also of the opinion that the gynæcologists should not go so far as to ascribe to every case of disease of the uterus and its appendages, without exception, which occurs in a woman married to a man who has had gonorrhœa, an infectious gonorrhoeic origin. There are no doubt also other causes for the presence of such inflammatory processes, especially if the latter develop in connection with pregnancy and parturition. It must, however, be admitted that it is impossible to find a solution, in every case, of the problem how the disease originated in the wife, by examining the husband. In very many instances husband as well as wife do not present themselves for examination until after many years of married life, when the husband has, perhaps, long since been free from gonococci, though he may have been gonorrhœally infectious at the time he got married. Such cases must therefore be entirely eliminated with regard to the question how to judge these diseases of women which are of a suspiciously gonorrhoeic nature.

The examination in the case of women has to take into account:

1. The urethra. Where there is an abundance of secretion, the preparation of the microscopical specimens presents no difficulties. I should like to recommend, however, for all cases the use of long-handled and blunted "sharp spoons" which can be thoroughly heated, for introduction into the urethra for the purpose of scraping off the most superficial epithelial layers, especially if the possibility is at all present that the patient has through micturition or expression discharged the secretion previously contained in the urethra.

With an abundant purulent secretion it is well to consider that in women also there are post-gonorrhoeic forms which carry gonococci no longer, and uro-gonorrhoeic urethrites.

If gonococci are really present, they lie here often extracellularly, embedded in mucus or vase-like on large epithelial cells.

2. The duct of Bartholin's glands. Even in quite chronic cases the same is frequently the seat of residual gonococci. If the opening shows the red macula described especially by *Sänger*, this clinical sign alone points to a gonorrhoeic remnant; but there are frequently gonococci in the expressed mucus though all clinical signs are wanting.

Similar importance should be attached to the large mucous glands surrounding, like a wreath, the orifice of the urethra.

3. The cervical canal. Here it is also advisable after the removal of the mass of mucus, which flows sometimes abundantly, to enter the canal with an instrument and to prepare microscopical specimens out of the substance lining the wall.

An examination of the vaginal secretion is of use only in quite young persons just married, as in adult women who have already frequently had sexual intercourse, the vagina itself is hardly ever the seat of gonorrhoeic processes. Of course it is possible for gonococci to descend from the uterus into the vaginal mucus; but then it is more to the point to subject the

cervix and eventually the uterus itself directly to an examination for gonococci.

4. An examination of the uterus itself becomes necessary in some cases where it is important to ascertain whether a gonorrhœic endometritis is present. Apart from the technical difficulties which every examination of the uterus involves, it is to be remembered that only in comparatively rare cases is it possible to apply any local treatment to the uterus direct. It may become necessary to establish the point if in spite of continued treatment of the cervical canal gonococci still continue to be present in the cervix preparations. In such cases it might eventually be best to discontinue the treatment of the cervix, if it is found that the body of the uterus has already become infected.

If in a case where gonorrhœa is suspected or if in the course of treatment no gonococci are found in the secretion from the cervix or uterus respectively, it is nevertheless always necessary to make another examination in connection with the menstruation period. Frequently one finds in such a case gonococci which have, so to speak, been provoked into action and which during the intervals between menstruation were too scanty to be recognised, or which did not even, perhaps, form part of the secretion.

5. As regards the rectum, its examination will be undertaken in every case of gonorrhœa of the genitals where there is some rectal irritation, so as to be on the safe side, especially where the patient is not excessively scrupulous about her personal cleanliness, and the discharge is very profuse.

What should be the attitude of the physician in practice?

1. In every case which presents a gonorrhœa that is not completely cured, a most careful examination must be undertaken.

2. Where gonococci are shown to be present or where their absence is not so conclusively demonstrated as to satisfy the physician's conscience that he is entitled to give his consent

to the proposed marriage, an energetic anti-bacterial treatment must be instituted, particularly of each affected part of the urethra (anterior and posterior) of the prostate, and of the paraurethral passages, with not too weak concentrated solutions, among which I place in the front rank the silver salts and the oxycyanate of mercury. The principle which underlies this line of treatment consists in keeping up the inflammation and suppuration by prolonged exciting action, in order to bring to light, on the one hand gonococci which might be present, and, on the other, to remove the same by gonococci-destroying remedies. The acute inflammation serves, further, to pave the way for the removal of the chronically inflammatory residues.

3. Should the marriage take place before the physician has fully satisfied himself as to the absolute innocuousness of the husband's condition, it is the duty of the medical man to permit condomatic conjugal intercourse only and to insist upon a continued observation and treatment.

4. Most scrupulous cleanliness and disinfection of the female genitals must of course be recommended. The physician must further make it his business to instruct the husband with regard to the symptoms of an eventual fresh infection of the wife, and to impress it upon him to pay attention to even the most insignificant signs and complaints.

It must be pointed out with the greatest urgency that notwithstanding all objections and protests on the part of the wife, an examination of the latter including a microscopical examination of the secretion must take place immediately, if suspicious symptoms of any kind make their appearance. For it is only the neglect of acute gonorrhœas which causes the endless misery that gonorrhœa has in its train, most particularly for the married women of the better classes.

5. Not infrequently there appears soon after marriage in men, who were before their marriage examined most carefully and on the result of that examination permitted to get married, a profuse suppuration which naturally causes them the greatest anxiety. It stands to reason that it is the physician's duty to make sure whether a diagnostic error on his part

has been committed or not, and whether there is still some gonorrhœa present after all, or whether we have before us an, exacerbation of the chronic-catarrhal process into an acute purulent one provoked by the frequent indulgence in sexual intercourse.

6. Where it is found that both husband and wife are infected they must both be subjected to most careful treatment—which is in by far the most cases, if begun soon enough, crowned with success¹—and warned not to resume conjugal relations, until a complete cure has been effected in both of them.

Extra-genital infections in adults hardly ever arise in connection with gonorrhœa. It is therefore as a rule superfluous to warn relatives and parents in the same way as it is necessary to do in the case of syphilis on account of the latter's infectiousness in families. On the other hand it is advisable to point out that insufficient cleanliness may cause indirect infection through the common use of objects soiled with the secretion, (towels, cotton wool, bathing-water) and that sexual contact alone, without accomplished intercourse, is also dangerous. Occasionally it may be necessary to call attention to the fact that the rectum can be the seat of a gonorrhœa.

II. Injury to conjugal fruitfulness through gonorrhœa.

This injury is caused either through the circumstance that the fulfilment of the conjugal duties, that is, the exercise of sexual intercourse, becomes impossible, or by the fact that in spite of normally executed coitus the husband is incapable of procreating or the wife of bearing children. Of course the two disturbances can also be present conjointly.

¹The frequently expressed opinion on the bad prognosis of gonorrhœa in females, or even on its incurability, applies only to the forms which have already attacked the uterus and appendages. Urethral and cervical gonorrhœas, however, can be cured comparatively easily and quickly, if they are treated early enough or treated at all. This is probably the case in prostitutes, when they are examined regularly and thoroughly, but to a less extent in private practice. (See *Neisser*, p. 199.)

Gonorrhœa plays a prominent part in both directions. As far as statistics are at all available, about 40-50% of all barren marriages owe their sterility to gonorrhœic diseases, either because the husband has lost the *potentia generandi* or *cœundi*, or the wife the *potentia gignendi*, in consequence of gonorrhœa.

1. Impotentia generandi due to gonorrhœa.

The *potentia generandi* of the husband can take effect only if a normally acting semen is introduced into the vagina or possibly the *portio vaginalis*, by means of the ejaculation intended for the impregnation of the ovum.

In spite of normal *potentia cœundi* disturbances in the *potentia generandi* can arise as a consequence of gonorrhœa in 3 directions:

(a) By the circumstance that the ejaculation-fluid contains no testicular secretion and that it consequently does not carry any spermatozoa which are absolutely necessary for impregnation—so-called azoospermia. Allied to it is the condition known as oligospermia.

(b) By the circumstance that the healthy and normally constituted semen is not discharged through the ejaculatory ducts into the urethra (aspermatism) or not transferred from the urethra into the vagina by a normally powerful ejaculation.

(c) By the circumstance that the existing spermatozoa, though they are present in normal numbers have lost the mobility required for the exercise of their function, (asthenospermia, necrospermia).

a. Azoospermia and Oligospermia.

Azoospermia and oligospermia are in the great majority of cases connected with a previous disease of the semen-conducting organs. Notwithstanding a complete retention of their function by the semen-producing testicles, the inflammation caused in the semen-conducting parts—epididymis and spermatic cord—by gonococci proceeding from the urethra leads in a remarkably large number of cases to a mechanical obstruction in the

flow of the impregnating testicular product into the urethra, either through cicatricial compression of the ducts or through a purulent dissolution and destruction of the whole epididymis, with or without external suppuration. The man becomes very frequently sterile if the semen-conducting passages on both sides are gonorrhœally diseased, in spite of complete retention of the potentia cœundi and in spite of the preservation of an abundant ejaculatory fluid coming from the vesiculæ seminales and the prostate.

Import and frequency of epididymitis.—With regard to the frequency of epididymitis we have no definite knowledge. It is true that most cases of epididymitis come under the notice of the medical profession, and are therefore available for statistical purposes; we cannot, however, compare the number of cases of epididymitis with a figure giving correctly the prevalence of gonorrhœa.

If we compare a number of statistics the cases of epididymitis fluctuate between 3.5 and 39.3% of the gonorrhœas. An average number computed out of very many statistics tabulated by myself gives the figure as 16.11%. But this is, perhaps, also too great, seeing that it rests principally on returns from hospitals and clinics. In all these institutions, however, the number of those admitted on account of epididymitis must naturally be disproportionately high if compared with the figures relating to out-patients' departments and private practice. A correct average figure is therefore, perhaps, contained in some statistics which I compiled in 1896 with the help of the medical profession of Breslau, and which on the basis of material collected fairly uniformly and probably with the same errors from among hospital and private patients of all sorts, gave the percentage of inflammations of the epididymis to the number of gonorrhœas observed as 8.9%.

It is very much to be regretted that a very important factor has received no consideration in any of these statistics, namely the manner in which the gonorrhœa had been treated before the appearance of the epididymitis. It is undeniable that the frequency of this as of all other complications of gonorrhœa depends very materially upon the method of treatment adopted,

and that it can be enormously reduced by an appropriate treatment of the gonorrhœa in its earliest stages.

The importance of azoospermia as a cause of conjugal sterility has been shown first by *Kehrer*, of Heidelberg. He found azoospermia in not less than 30% of the married persons who consulted him on account of sterility, as the sole cause of the latter. This figure has been confirmed from various quarters: *Busch*, *Fürbringer*, *Giacomini*, *Godart*, *Gosselin*, *Liègois*, *Lier-Ascher*, etc. I wish to quote especially *Simmonds* who examined the testicles of 1000 bodies with regard to the presence of spermatozoa. He found among them 33 cases of azoospermia, which he could trace to venereal complaints; of these 22 were undoubtedly of gonorrhœic origin. Taking the general calculation that of 1000 marriages 10%—or 100—remain sterile, the 22 cases of azoospermia caused by gonorrhœa would refer to these 100 marriages. *Fürbringer* found in 600 husbands of sterile women as much as 83.3% of azoospermia or serious oligospermia. Personally I have not at my disposal any reliable calculations, although I have examined very numerous cases. But I have always found, each time a husband consulted me on account of the sterility of the marriage—if there was no impotentia cœundi—that there was azoospermia, and, indeed, regularly after a previous double epididymitis. Vice-versâ, whenever I have examined the semen on account of an anamnesticallly established epididymitis, I have generally, though not always, found azoospermia present.

The danger of a double epididymitis and funiculitis is easily apparent. The frequency of double epididymitis—whether the two epididymes are attacked simultaneously or successively—is estimated to amount to about 7% of all the gonorrhœic diseases of the epididymis.

But one-sided epididymitis also deserves consideration with regard to the preservation of the procreativeness of the entire seminal fluid. In the first instance cases of azoospermia have been observed in one-sided epididymitis as well, and secondly, the danger of azoospermia is, considering the frequency of gonorrhœa and epididymitis, naturally by 50% greater in the case of every man who has already suffered the

loss of one testicle. And as a matter of fact, as *Jadassohn* has established, most cases of epididymitis lead to a loss of function on the affected side.

Some cases of one-sided epididymitis are however only apparently one-sided diseases. For the funiculitis which takes place on the one side without the epididymis being affected at the same time is surely as effective in impeding the passage of the semen as the epididymitis present on the other side; only it is not noticed so frequently and is therefore not registered statistically. In this connection also *Simmonds* has pointed out by his very careful anatomical observations how often the most insignificant pathological changes in the seminal ducts suffice to obstruct the passage of the testicular secretion. He found in the above-mentioned 1000 dissections 23 times stricture of the vas deferens. In 10% of these cases there was absolute azoospermia, in other words sterility.

On the other hand, double epididymitis does not always give rise to absolute sterility. *Benzler* found in 24 marriages, the husbands in which had gone through double epididymitis, absolute sterility only 10 times (41.65%). In 5 marriages (20.8%) there was relative sterility, and in 9 cases the circumstances were normal.

If we do not wish to accuse all these 14 wives of infidelity and of illicit intercourse with other men, we find that there was procreativeness in almost 60% of the cases in spite of the double epididymitis.

In 87 marriages with one-sided epididymitis *Benzler* found absolute sterility 16 times = 18.39%; relative sterility 10 times = 11.5%; normal conditions therefore 71 times. The procreativeness was therefore retained in 81.6% of the cases.

For comparison he took 363 marriages, of which the husbands, though they had had gonorrhœa in former years, had, however, escaped inflammations of the epididymis. They showed 10.46% absolute sterility, and consequently 89.64% retention of the procreativeness, that is, the conditions as to sterility corresponded to the generally accepted figure with regard to all marriages in which the husbands have a history of gonorrhœa.

Oligospermia.—Closely related to azoospermia is oligospermia, i.e. a condition of the spermatic fluid in which there are only very few spermatozoa present. As a rule the mobility of the spermatozoa is in such cases also impaired, so that by the combination of these two disturbances relating both to the quantity and the quality of the spermatozoa, the chances of the impregnativeness of the ejaculatory fluid are very much diminished, particularly if there are any conditions existing in the cervical canal of the wife which hinder in any way the entrance of the spermatozoa into the uterine cavity.

There is, however, also no doubt that husbands with such poor, short and thin spermatozoa have impregnated their wives, a fact which is of the utmost importance to the physician when called upon to express an opinion as to the prognosis.

As to the causation of oligospermia we are not very well informed. As a rule we must assume that so long as the semen-producing and semen-conducting organs of one side are functionally and anatomically normal, we cannot speak of a material diminution in the quantity of the semen or of a disturbance in the potentia generandi. Only when disturbances on both sides have so obstructed the passages that really only minute quantities of the testicular secretion can pass—and, as we have seen, this result can be achieved even by only comparatively insignificant anatomical changes—it is only then that oligospermia can be said to have made its appearance.

Finally, we must mention yet two disturbances in the function of the testicles, though they are only indirectly connected with gonorrhoeic conditions. It is possible for an atrophy of the testicular substance to arise in consequence of unsuitable treatment of an epididymitis—and formerly, when the application of firmly-adhering plaster bandages was a favourite method of treatment, such a result was far more often observed than at the present day—and further such an atrophy may also be caused by a hydrocele supervening in connection with a gonorrhoeic epididymitis; for gonorrhœa as such does not attack the testes direct.

b. *Aspermatism.*

By far more rarely than by the conditions just described, male sterility is caused by aspermatism, i. e. a complete absence of the entire fluid known as semen and consisting of the extracts of testicle, vesiculæ seminales and prostate.

But among the rare cases of aspermatism gonorrhœa again is the most frequent causation of the same, as gonorrhœal strictures lead to cicatricial closures and distortions of the openings or channels of the ejaculatory ducts, to such an extent that there is either no discharge of semen at all into the urethra or that the ejaculation takes place in a posterior instead of an anterior direction. Under other circumstances, too, very narrow strictures of the urethra can result in making the ejaculation impossible altogether or at least in depriving it of its shooting character so that it is replaced by a slow flowing movement which takes place after the cessation of the erection. In this way no seminal fluid at all or only very minute quantities of it reach the vagina or the neighbourhood of the portio vaginalis, conditions which are bound to impede considerably the union of spermatozoa and ovulum.

The fact that such strictures allow the urine to pass does not by any means prove that the spermatic fluid can also pass through them; the latter is much thicker and more viscous than the former, and besides, a most important factor in the whole process is that the semen should be swiftly expelled during the erection. But then, in the erected condition of the penis the strictures are apt to become still narrower than when it is relaxed, or, perhaps, to even close up altogether.

The exercise of coitus can take place quite normally in spite of complete aspermatism; and it is even as a rule accompanied by a feeling of ejaculation which gratifies the sexual desire. But there is no emission of semen. And it may also happen that violent pains are experienced in the region of the perineum.

If the strictures and cicatrices are so situated that the sperm, although it can pass from the ejaculatory duct into the urethra,

cannot proceed further into the anterior urethra, it is generally possible to demonstrate seminal fluid in the urine in corresponding quantities.

Finally it is possible for functional disturbances in the sphincter muscles concerned in the ejaculatory act, arising in connection with gonorrhoeic prostatitis, to lead to a perverse discharge of the semen into the bladder instead of anteriorly into the urethra.

c. *Necrospermia.*

In addition to the above factors which can diminish or remove entirely the presence and quantity of spermatozoa in the ejaculation-fluid by mechanical means principally, there may arise pathological conditions which damage the spermatozoa, present perhaps in normal numbers, to such a degree that they become functionally incapable. But the most important quality for the vitality of the spermatozoa is their mobility.

What does this mobility depend upon? We have learnt chiefly through *Fürbringer* that the spermatozoa, while yet in the vesiculæ seminales, are immobile, and that from slumbering threads they become mobile living "sperm-animalculæ" only through the addition of the normal prostatic secretion.

The spermatozoa need therefore, in order to become fully capable to fulfil their function, the presence of a normal secretion from the vesiculæ seminales which contributes to the maintenance and preservation of the spermatozoa, and that of a normal prostatic secretion which makes them mobile. The addition of pus or blood, alterations in the consistence and in the reaction of the vesiculæ seminales caused by inflammation, and changes in the prostatic secretion the reaction of which is normally acid, can thus diminish or even destroy the mobility of the spermatozoa. In this way arise the conditions of asthenospermia and necrospermia through hæmospermia and pyospermia, which, in their turn, are produced by vesiculitis gonorrhoeica seminalis and prostatitis gonorrhoeica.

Chronic prostatitis.—It would, however, be radically wrong to assume that this functional incapacity of the

spermatozoa occurs whenever such conditions prevail. The simple fact alone that even extreme degrees of chronic prostatitis with neutral reaction of the prostatic secretion are present in an endless number of cases in which the potentia generandi is retained, denotes that male sterility is not necessarily a result of these conditions. On the other hand we learn from these facts that it is our duty in every case where there is a certain amount of pronounced vesiculitis and prostatitis, especially where there is an alkaline reaction of the prostatic secretion, to examine the semen with regard to the mobility of the spermatozoa contained in it. A particularly important series of observations has been made by *Goldberg*, who has examined 22 married patients affected with prostatitis. Of these patients 17 had children, and 5 were childless. But in these latter cases, too, the chronic prostatitis could not be made absolutely responsible for the fruitfulness of the marriages, as there were other possible elements as well concerned in its causation.

In all probability these abnormal phenomena are not constant and permanent either, but variable, so that the semen is according to the stage, present at the time, sometimes functionally capable and sometimes "dead."

An unfavourable prognosis should therefore never be expressed after a single examination, but it is advisable to wait first and see the results of the treatment instituted which is in the case of prostatitis generally very hopeful.

2. Influence of Impotentia generandi on the married state.

As regards the establishment of the condition of azoospermia, oligospermia, and necrospermia, it must be pointed out in the first place that the purely clinical examination of the testicles, epididymes, and spermatic cords, prostate and urethra, supplies no conclusive information whatever; just as little knowledge can be obtained from the objective and subjective general conditions; decisive is solely and exclusively the microscopical examination of the semen.

Examination of the semen.—But the latter also is reliable only if carried out several times with semen obtained as soon as possible after ejaculation. Although in spite of all possible influences of the temperature and in spite of a long interval of time having elapsed between ejaculation and examination, the spermatozoa often retain their mobility, it is, nevertheless, possible for all kinds of accidents which cannot be explained in detail in every case, to annihilate in a very short time the mobility of the spermatozoa. It is therefore never safe to have seminal fluid sent for examination; in such a case the utmost that can be found out is the fact whether spermatozoa are present or absent, but not whether they are mobile or dead. For such examinations I recommend the preparation of dry specimens of semen; it is possible as I showed many years ago to make very good double stainings with carbol-fuchsin and methyl-blue, when it can be demonstrated at the same time where the single constituents of the spermatozoa come from—namely the red from the nucleus and the blue from the protoplasm of the testicular cell.

So as to obtain the semen for examination in as fresh a state as possible, I generally arrange with the husband to have condomatic intercourse at a definite hour and to let me have the condom, suspended in a wide-mouthed glass bottle carefully corked, immediately afterwards. In oligospermia and necrospermia it is always necessary, as I should like to emphasize once more, to subject the prostate and eventually also the vesiculæ seminales to treatment, before expressing an opinion on the prognosis. Not infrequently the constitution of the semen or of the spermatozoa respectively changes in a very short time as a result of proper treatment of the prostate (massage, and so forth).

If seminal fluid is brought to a physician for the purpose of being examined, he should be careful, especially in forensic cases, to certify that he has examined and given an opinion on the *specimen submitted to him*, seeing that substitution is in such cases well imaginable.

Where the examination has been conducted in the manner above described the physician will probably in most cases be

able to offer a sure opinion on the generating capacity of the husband.

The question is, however: Must he in every case without any reservation communicate the truth to his patient if he finds that this generating capacity does not exist? In all cases where the possibility of a *potentia generandi* cannot be altogether excluded, f. i. in oligospermia and in many cases of necrospermia, the physician will have to lay stress not only on the doubtfulness of the prognosis but at the same time also on the possibility of procreation. As a rule the patient is satisfied with such an assurance since he and his wife need not give up all hope of ever having children. The case is quite different in azoospermia! Judging from my own large experience, I should like to advise every medical man, for psychical reasons not to communicate to every husband in an unceremonious manner the sad fact of his generative impotence, but to institute several examinations in order to gain time for the purpose of studying the patient and his circumstances.

I need not think here of the possibility—it is known in literature—that the wife may, perhaps, become pregnant by another man, and that the married life may in this way suffer a serious blow, but will confine myself to the purely psychical factor that the necessity to renounce for ever the wish to have children depresses many men very keenly and may even make them psychically ill. It is in many cases not only a question of the human desire to see oneself reproduced in one's offspring and to procure to the wife the bliss of maternity which she so ardently longs for, but there are often entirely practical standpoints which arise, as f. i. the inheritance of family property, and so on.

Prognosis.—An endeavour must therefore be made in each particular case to become acquainted with the individuality of the patient in question and to decide accordingly whether the whole truth should be told, or whether a spark of hope should be left to him. The situation is to a conscientious physician, of course, a very difficult one, if the patient insists repeatedly on being medically treated. Personally I have never achieved the slightest good, no matter what treatment was

instituted (massage, plaster-bandages, damp and hot bandages, and even extirpation of the cicatrised cords). With regard to the possibility of stitching the spermatic cord directly to the globus major of the epididymis after removing the cicatricially altered parts, as suggested by *Martin* and *Bogoljuboff* on the strength of experiments, I have not been able to collect any personal experiences, so that I cannot say whether it is an operation which deserves, of course with the full knowledge of the patient as to its problematical result, to be undertaken or not.

The physician must further take into consideration whether the patient consulting him is as yet not engaged to be married or whether he is already a married man. In the first case it would mean the eventual prevention of a contemplated marriage, in the second principally the avoidance of an unnecessary and superfluous treatment of the wife. In many cases I have thought it advisable to tell the truth without any hesitation, where I believed it would be useful to the husbands to know that they cannot expect to have any family and that they were not under the necessity to amass a fortune for any descendants. This would enable them to live better and to indulge in luxuries such as travelling, etc., which would somewhat compensate the wife for the disappointment experienced through not having any children.

In very rare cases the physician may be in a position to give his consent to a marriage in spite of existing azoospermia, or such a marriage might even be desirable where for some reason or other (contracted pelvis, etc.) it is best for a girl to avoid pregnancy.

To what extent the wife of a husband who is affected with impotence of procreation should be enlightened, depends in the majority of cases upon whether it is the wife herself who comes to consult the physician—in that case she has, in my opinion, a right to be told the truth—or whether husband and wife present themselves simultaneously, when the husband becomes, so to speak, the patient of the doctor. In such cases I am of the opinion that the physician has no right, on his own initiative, to become a party to differences between hus-

band and wife. I am even not quite sure whether under such circumstances it is not the doctor's duty to guard the secret entrusted to him by the husband, in conformity with § 300 of the German Criminal Code.

The matter is far simpler in aspermatism, as in these cases the patient knows that there is a morbid disturbance. Here it will be necessary to deal more with the establishment of the causes of the aspermatism and the removal of the conditions giving rise to it.

The relations of female gonorrhœa to the sterility of the wife have, like the entire subject of gonorrhœa in relation to diseases of women, only within the last 20 years received proper consideration and been placed in their true light. The former under-estimation of the importance of gonorrhœa, was followed first, owing mainly to the work of *Nöggerath*, which created a sensation and gave rise to numerous researches, by an overestimation, which is now gradually being reduced to a correct appreciation. It must be admitted, though, that this correct appreciation is still sufficiently alarming, if we study the reports of gynæcologists as to the frequency of gonorrhœal affections which take place during married life.

I will, further down, refer to this point again. In this place we are interested only in the disturbances of the female fruitfulness which are caused by gonorrhœa.

Generally speaking gonorrhœa in itself does not render the women sterile, and is therefore as a rule not the cause of absolute sterility, although there do occur numbers of such cases. The danger begins usually with a labour, in connection with which it is immaterial whether the gonorrhœa existed before conception, or whether it was acquired during the pregnancy. It is only the puerperal state which supplies the opportunity for the gonococci, hitherto scanty and limited mostly to the urethra and the cervical canal, to multiply enormously during the first days after the labour, to ascend upwards and to give rise to diseases of the uterine cavity and Fallopian tubes, which result so often in sterility. Thus the condition

develops which is designated as one-child-sterility, a condition which can lead to the absolute sterility of a marriage, if a woman affected with this form of gonorrhœa before her marriage marries for the first time.

3. *Relations of gonorrhœa to the impotentia gignendi.*

(a) The disease of the cervical canal associated with swelling and the formation of mucus, causes a mechanical obstruction to the entrance of impregnating spermatozoa, and makes therefore conception impossible. Cervical gonorrhœas are uncommonly often overlooked, because, according to an average calculation made by *Baermann*, the cervical canal not infrequently—in about 46% of all female gonorrhœas—represents the sole place of infection, while in about 25% of the cases it is affected along with the urethra. The absence of all subjective complaints is the reason why numerous women know nothing about their being infected and why they do not seek medical advice and treatment.

(b) Where the gonorrhœic process attacks the mucous membrane of the body of the uterus, there ensues a more or less suppurative endometritis accompanied as a rule by distressing subjective complaints. Apart from the very severely-felt disturbances of the menstruation alone, it is just this disease which constitutes a frequent cause of sterility either because the implantation of the impregnated ovum is, to begin with, prevented, or because a premature expulsion of the implanted embryo takes place subsequently. Where normal labour does occur, such a diseased puerperal uterine mucous membrane is particularly subject to inflammatory exacerbations, which can lead on the one hand to puerperal infections, and, on the other, reduce still more the possibility of conception in the future.

(c) If the gonorrhœic endometritis which as a rule stops short at the ostia of the Fallopian tubes attacks the tubes after all, the possibility of pregnancy in the future, though considerably diminished, is not excluded entirely, as a cure may yet take place. Usually, however, this relatively favourable course

of the tubal gonorrhœa is not achieved; on the contrary, there ensues a formation of larger accumulations of pus in the tubes, followed by adhesions and obliterations of the lumina, and an affection of the ovaries and peritoneum. The ovaries embedded in inflammatory infiltrations and adhering to the pelvic wall become unfit for ovulation, and permanent sterility thus results. The latter is incurable even if all the acute symptoms disappear from the genital tract, and there is no sign whatever left of gonorrhœic processes, and of course, of gonococci.

Frequency.—As regards the frequency of female gonorrhœa as a cause of female sterility, there are quite a number of statistics contained in literature; few of them, however, and especially the older ones, are perfect, partly because the diagnosis of gonorrhœa rests on purely clinical symptoms, and often on the fact only that the husband had had gonorrhœa, without any reference to the presence of gonococci, and partly because it is not always taken into consideration sufficiently how often in sterile marriages where the wife has been infected with gonorrhœa, there were at the same time conditions present in the husband, which would, perhaps, in themselves be enough to explain the sterility, even if the wife had not been attacked by disease.

I will therefore leave out of account the numerous, though to some extent highly important and valuable communications of *Nöggerath*, *Glünder*, *E. Schwarz*, *Kehrer*, *Kleinwächter*, *Grünwald*, *Caspary*, *Chrobalk*, *Sänger*, *Zweifel*, *Lohmer* and *Oppenheimer*, and will reproduce in greater detail only the very carefully prepared researches of *Liehr* and *Ascher*. But in so far as I have been able to form an opinion on the statistics available, I feel inclined to agree with *Bumm* who attributes about 30% of all cases of primary sterility of women to gonorrhœic infection, and who perceives the main danger of gonorrhœa with regard to the increase of the population principally in the creation of secondary so-called one-child-sterilities.

4. *Disturbances in the potentia cœundi.*

The disturbances of the potentia cœundi of the husband caused by gonorrhœal diseases are more rare than the condi-

tions of impotentia generandi just described. We can distinguish two groups:

(a) Disturbances in the potentia cœundi produced by local processes, (b) impotence caused by general conditions depending, of course, in the last instance on a gonorrhœal disease.

Among the local causes are included all those which lead to disturbances in the power of erection. They arise through peri-urethral inflammations and suppurations either because the latter transform the entire loose connective tissue of the penile skin into a rigid and firm callosity, or because the processes invade the corpora cavernosa and cause in them more or less extensive destructions which in their turn heal with the formation of cicatrices. But, if in the place of the normal erectile tissue, centres of connective tissue form, a normal uniform engorgement and consequent swelling of the one or both corpora cavernosa is no longer possible; the erection takes place therefore in a curved manner or not at all. Generally these processes occur in the acute stages of gonorrhœa, more rarely in chronic cases, and at any rate in connection with strictures.

Importance of chronic prostatitis.—As locally caused forms of impotentia cœundi are regarded so also must the forms emanating from chronic posterior urethritis and chronic prostatitis. If an inflammation of a somewhat serious nature develops in the deeper layers of the mucous membrane of the posterior urethra,—in which case an affection of the caput gallinaginis becomes unavoidable,—and also in the prostatic structure, symptoms of irritation of all kinds inevitably appear in consequence of the exceedingly great amount of nerve-tissue present in these regions, which lead to disturbances of micturition as well as to disorders in the sexual function.

The hyperæmia and tumefaction accompanying the erection create in the already inflamed tissues sensations of pain which eliminate all pleasurable feeling and which often enough induce the patients to abstain from cohabitation on account of the painful character of the erection and ejaculation.

The chronic inflammatory process in the urethra posterior and in the prostate manifests itself frequently not exactly in

the shape of severe pain, but it leads reflexly to irritative symptoms which produce at the attempt of coition such a rapid ejaculation that in spite of powerful erection before the coitus, the latter becomes impossible through the ejaculation taking place before the immissio penis ("irritable weakness"), or is prematurely completed immediately after the immissio on account of the rapid ejaculation. This alone diminishes the chances of impregnation. Moreover, in such short and interrupted intercourse a certain amount of gratification of the libido may be experienced by the husband, but not by the wife, a circumstance upon which the chance of impregnation often apparently depends.

Prostatorrhœa.—The inflammatory processes of the pars prostatica lead, further, very often to relaxed conditions of the manifold muscular apparatuses of this region, and thus there arise through atony of the ejaculatory ducts forms of prostatorrhœa, of false, or eventually also of true spermatorrhœa; conditions which are as a rule designated as mixtion-spermatorrhœa and defæcation-spermatorrhœa. In themselves these symptoms are usually of no consequence. But in practice it is often found that it is just these "losses of sperm" which give rise to severe psychical and hypochondriac troubles, to apprehensions of diseases of the spinal cord, and such like.

In an exactly similar manner act as a consequence of local irritations in the prostatic part, emissions of a morbid character. Their injurious influence on the virility can also manifest itself in two ways. In the first place when they are very frequent they conduce purely objectively to a weakness of the body and especially of the nervous system. Besides—and this is probably oftener the case—they form the starting-point for sexually-neurasthenic conditions through the exaggerated importance which the patients attach to their loss of semen. In this way, however, with the anxiety and constant worrying over every symptom and every sensation, a new factor is created which is certainly apt, more than any other, to bring about long-lasting or even permanent impotentia cœundi, the more so as in many cases there is in point of fact a certain objective

weakness of the erection present. If in addition to all these abnormal phenomena accessible to observation, there are also subjective symptoms of a nervous and hyperæsthetic nature proceeding from the posterior urethra and the prostate—and these subjective symptoms are always very keenly felt on account of their constant presence and nagging character allowing no intermission—there develops finally a combination of symptoms of general sexual neurasthenia which is capable of bringing on most serious diseased conditions. How often in such cases the real gonorrhœic and post-gonorrhœic morbid conditions resuscitate a, perhaps, only latent neurasthenia, aggravate one which is present in a moderate degree, or occasion it primarily, whether the impotence is the cause or the consequence of the neurasthenic *ensemble*, it is not always possible to say with certainty. One has certainly often the impression that the patient who is neurasthenic to begin with, localises his complaints in this sphere particularly; on the other hand I believe I have often satisfied myself that individuals who are originally in perfect health can develop into severe neurasthenics through their chronic post-gonorrhœic conditions in the posterior urethra and in the prostate, if there are light disturbances of the virility present and the question of marriage is beginning to engage their attention. But that such general neurasthenia can from the very beginning constitute a factor leading to “psychical” impotentia cœundi, does not require any explanation, especially in the case of men whose virility was before also not very strongly developed. Masturbation and long continued excesses in venere can also in so far play an important part, as they either contribute in fact to the diminution of the potency, or because they create a fear of the injurious consequences of the youthful transgressions, thereby acting paralytically on the sexual function.

Gonorrhœal neurasthenia.—We can also with perfect right speak of gonorrhœal neurasthenia. The acute gonorrhœa is succeeded by a chronic inflammatory irritative stage with special participation of the mucous membrane of the posterior urethra, caput gallinaginis and prostate.

These local inflammatory phenomena can, in conjunction

with more or less marked subjective complaints, lead to disturbances of the erection and ejaculation.

As a rule however there also supervene soon general, one might almost say psychical, alterations, caused partly by the constant and sometimes dreadfully wearisome subjective complaints in the affected regions and partly by the observation that the virile power is considerably diminished. To this is moreover added the anxiety that the uncured gonorrhœa may have also other injurious consequences for the patient himself, or for the wife and offspring.

The psychical change thus effected becomes itself a new and independent factor, which disturbs and reduces the virility further still. It is well known that even in quite normal and healthy men the potency may suffer temporarily and become lost for a time when a doubt arises as to one's virile power. Now, if such a doubt happens to be justified by a passing disease and confirmed by other factors (masturbation during youth, false descriptions in works pretending to offer advice and enlightenment, etc.) one can easily understand the importance of the psychical element in the whole of this question.

Thus we see that in the great majority of people in whom somewhat marked conditions of impotentia cœundi appear in connection with chronic gonorrhœic urethritis, a systematic separation of the local causes from those acting generally is not possible. Especially if the conditions have existed for some time, it is often not even possible to find out whether the patient is complaining of local troubles and of impotentia cœundi because of his neurasthenic general conditions, or vice-versâ whether the local complaints have given rise to the impotentia cœundi and to the psychical depression associated with it.

Prognosis and treatment.—However, it is my opinion that it is advisable in all these cases to ascertain and treat with the minutest care and persistence the local conditions, of course, with due regard to the general condition and the due application of all the remedial measures influencing this general condition. The chances of success are naturally the greater the earlier the treatment can be commenced, that is, the less the nervous disturbance has been allowed to shape

into an independent ailment and to become the principal factor influencing the virility. I even consider the treatment of chronic conditions of the posterior urethra and of the prostate associated with such symptoms an extremely grateful field, and know from experience that it has been possible in a large number of cases by treatment—and if, perhaps, not by treatment, at any rate by the removal of the local symptoms—to remove the disturbances in the sexual function and thereby those forms of impotence which arise only through psychical influences in a round-about way.

III. Injuries to the family happiness.

In addition to the gratification of the sexual desire and the procreation of healthy descendants, we have mentioned as one of the objects of marriage the permanent cohabitation of the two individuals in question who desire in this way to create a household and a family, and who are imbued with the hope that they will by means of this fellowship render their lives happier and freer from cares.

But how easily can the happiness of a family be disturbed or destroyed through the absence of that blissful motherhood which the wife so ardently longs for, through the sexual non-gratification of the wife in impotentia cœundi of the husband, through continued illness and severe infirmities such as are caused in men by serious post-gonorrhœic sexual neuropathic conditions and in women by the dreaded diseases of the appendages? Not only the individual affected loses all joy in life, but the happiness of both partners and of the whole family is destroyed, and often enough there appears along with the disease a diminished working ability of the bread-winner and consequently a severe economic depression in the family.

Disease of the wife.—This fate naturally hits the hardest those families which are poor, especially where the wife is compelled through the insufficient earnings of the husband to participate as bread-winner in the support of the family. If the wife who is attacked by gonorrhœa were at least in a

position to take care of herself from the beginning of her illness, she might, perhaps, escape a long duration of the same. But as it is, she is obliged to work, and in this way there accumulates a succession of sickness, poverty and misery. For though in most cases gonorrhœa of the urethra and the cervix is of little consequence, the disease attains an enormous significance once it attacks the inside of the uterus, particularly as medical treatment is then almost out of the question. In spite of incessant endeavours to annihilate by active interference the gonococci producing the disease and thus to remove the suffering, most gynæcologists on the strength of their experiences favour the view that nothing is wanted but the best possible nursing and rest in bed, and that an expectant attitude offers the safest and quickest prospect of success. But it is exactly the poorer classes of women with whom we are dealing now who are least able, on account of the necessity they frequently are under, to work and thus to contribute to the maintenance of the family, besides looking after the interests of the household without any assistance, to carry out the medical order and to give themselves the necessary rest in bed which may have to last for weeks and months. Thus it is no wonder that most serious and even dangerous conditions develop in these women far more often than in those who are better off, conditions which lead on the one hand to sterility—a result which causes not the least keen disappointment—and which, on the other, often render serious operations necessary. These operations must in such cases be looked upon not merely from the medical, but also from the economic and social point of view generally, as the best solution of the problem, since the operative removal of the organs affected with disease and causing the state of infirmity is followed most surely and most quickly by rehabilitation to health and the re-appearance of the ability to work. Frequently, however, this comes too late, and the family is already ruined. Where the wife of a poor working-man, who is as a rule the only person that looks after the household and the comfort of the husband, is ill, miserable, depressed, nervous and bedridden, or where she must spend weeks and months in the hospital, the temptation of the husband to prefer the

conviviality of the public-house to the cheerlessness of his own home, and to seek the company of other women, is too great not to cause many men to succumb to it.

The great pecuniary cost occasioned by the illness of the wife must also be borne in mind.

If we think, further, of the fresh infections acquired only during married life, we have to take into consideration—apart from the danger of infection run by the wife—the complicating diseases of male gonorrhœa which exclude the possibility of following one's employment sometimes for a long period, such as affections of the epididymis, of the prostate, joints, heart, etc. Happily these complications and metastases heal as a rule entirely, but there still remains too often a group of chronically diseased individuals and of individuals who are permanently injured in their physical productiveness; the more so, as some married men do not carry out the treatment carefully enough and do not look after themselves properly, partly in order to conceal their illness, and partly on account of their "troubled conscience."

Of no considerable importance is the danger of a shortened life-duration in consequence of post-gonorrhœic diseases, but its occurrence is possible in severe strictures of the male urethra and in diseases of the bladder, and of the kidneys due to them, in post-gonorrhœic abdominal diseases and rectal ulcerations in women, and in gonorrhœic endocarditis.

Nothing is known about an hereditary transmission of gonorrhœa to the offspring, but against that we are only too well acquainted with the conveyance of the maternal gonorrhœa to the conjunctiva of the child during the labour process.

Blenorrhœa neonatorum.—It does not require very many words to show that these blenorrhœas must partly on account of the severity of the disease itself and partly on account of the risk of blindness to which the affected eye is subject, be a source of considerable anxiety to the parents, especially as here also the disease of the child can be traced to the parental illness, brought about more or less through the parent's own fault. How often does it happen that only with the occurrence of this sad calamity the guilty party becomes

conscious of the havoc caused by pre-nuptial and extra-nuptial intercourse and by the sexual diseases almost inevitably resulting from it!

Though the number of cases of blindness due to blenorrhœa neonatorum is still alarmingly large—statistics of blind-asylums show that at least 25% of the cases of blindness are as yet caused by gonorrhœa—it must nevertheless be admitted that owing to *Credé's* method this form of the disease has lost much of its former dreadfulness. The fact is that in all the maternity hospitals in which *Credé's* method or one similar to it is adopted, blenorrhœa neonatorum is practically never seen. Unfortunately, however, the procedure is, at least in Germany, not obligatory and a total extermination of blenorrhœa is therefore for the present out of the question. In Breslau f. i. *Herrmann Cohn* was able on the basis of a very careful statistical calculation prepared with the help of all the local medical men, to establish that as late as in the year 1896, 300 cases of gonorrhœa occurred, i.e. 25 per 1000 new-born children. Terrible as this figure is—if we think that the disease might easily have been averted if *Credé's* method had been adopted—it is on the other hand a valuable indication as to the number of unrecognised and untreated cases of gonorrhœa which are still present in married women, and perhaps also in their husbands.

These figures form a welcome argument on the dangers of gonorrhœa which can be used against those who maintain even at the present day that gonorrhœa is a harmless affection requiring but little notice.

Accidental infections in the family.—In addition to the gonorrhœal infection of the eyes of new-born children we have to mention also the cases of vulvo-vaginitis in little girls which are brought about by an accidental conveyance of secretion from the mothers to the children, either through the use of common objects or through the occupancy of the same bed. Although such familiar infections are not exactly very numerous, each one of these infantile infections is highly to be regretted (especially as even the most careful treatment achieves here success but very slowly) because we

must always say to ourselves that we are in the presence of quite innocent victims of avoidable diseases.

I conclude herewith the enumeration and discussion of the dangers arising to the married state from gonorrhœal disease. I should only like to call attention to one other point, though it is one rather of a "human-nature" aspect.

The whole situation, comprising on the one hand the above-mentioned disturbances in the *potentia generandi* and *cœundi* and the illness and incapacity for work of the husband himself, and on the other the disease of the wife and of the children, is rendered more keen and more bitter by the knowledge, which is very often not absent, that all this misfortune of the married state, that all this non-realisation of the hoped-for bliss on the strength of which the marriage was entered into, is in the last instance due to a disease which could have been avoided.

Question of guilt.—The extent to which "guilt" and "wrong" should be imputed must of course vary from case to case.

There is certainly no excuse whatever for those who marry with the knowledge that they are infected with the disease, or for those who become infected after marriage and who continue nevertheless to practise conjugal intercourse.

No less censure is deserved by those who though informed of the possibility that a chronic catarrh which has remained behind as a result of a former gonorrhœa might be infectious, do nothing to obtain in any way an assurance of their own innocuousness. In fact, such men often avoid a medical consultation for fear that they will be told the, to them, unpleasant truth that they really ought not to marry, and they prefer to let misfortune overtake them—an example indeed of unaccountable frivolity.

Morally excusable are those who marry in full ignorance of the possibility that any danger of infection can proceed from them, and also those who decide to get married after having obtained all information from, and the consent of, the medical man who has examined them. If severe consequences appear in them nevertheless, or if an infection is transmitted by them, they are at least free from the reproach of gross

carelessness, though they become the cause of the conjugal unhappiness.

IV. Statistical conclusions.

With regard to the prevalence of gonorrhœa among the two sexes, in so far as we have any information at all, I have made some statements in a previous passage. These show beyond doubt that the distribution of gonorrhœa among females—of course, with the exception of prostitutes—is very considerably less than among men.

It is consequently the husband who introduces gonorrhœa into the married state in an absolutely by far greater number of cases than the wife, and who is generally responsible for the injuries caused by it.

A very considerable number of the women who practise sexual intercourse before their marriage, enter the latter, no doubt, in an infected condition; for apart from the difficulties encountered in the endeavours to cure female gonorrhœa it is to be remembered that those women who are in the habit of indulging in sexual intercourse before they are married and who are thus liable to become gonorrhœically infected, generally belong to a class of people who are on a lower intellectual level and from whom it is hardly possible to expect that they will devote prolonged rest in bed involving loss of wages, and such minute attention to details as is required, in order to bring their illness to a definitely satisfactory conclusion by suitable treatment.

Statistically we possess very little information as to the frequency of gonorrhœic diseases among men and women entering the matrimonial state,¹ but we can draw approximate conclusions from the following statements:

¹I have found only one observation in literature in a work by *van Schaik*. The author has examined with respect to gonorrhœa 65 married women belonging to the better classes. Unfortunately he has examined microscopically the vaginal secretion only, which he has obtained by scraping it off the mucous membrane, but not the secretion from the urethra and the cervix. Signs of acute gonorrhœic infection were found in only 3 cases;

Frequency of male chronic gonorrhœa.—

1. What do we know about the frequency of male chronic gonorrhœa which is, as we have already several times emphasized, the most frequent cause of the infection proceeding from the husband? *Nöggerath*, who, already in 1872, was the first to point out the importance of gonorrhœal infection to the married state, made the assertion that of 100 men at least 80 had had gonorrhœa before they were married, and that of these again, 90% had entered married life with their gonorrhœa uncured.

This assertion is fortunately exaggerated, as has been demonstrated subsequently by examinations made on the basis of the presence of gonococci. The first researches pointing that way I communicated myself in 1885 at the Naturalists' Congress in Strassburg. I then found among 143 examined cases 80 with gonorrhœa of a still undoubtedly infectious character, that is, 54%. This percentage is, however, doubtless of just as little use as a general guide for the infectiousness of chronic urethritis, as the communications recently made by *Fritz Meyer* from *Rosenthal's* laboratory, on the strength of culture-experiments. The reason is that in the material which we both used there are included too many cases relatively fresh yet; besides, the policlinical material which is recruited from the poorer classes contains too many cases of chronic disease brought about through sheer recklessness and insufficient treatment. We obtain thus a picture of the serious danger which protracted and chronic gonorrhœa causes to the married state, but these conditions are not an absolute criterion of the dangerousness of marrying-men (especially those of the better classes) who have once had gonorrhœa.

A different tale is told by the figures given by *Brauser* and *Scholtz*. *Brauser* examined the morning-urine of 300 patients picked out at random from among the patients attending at

4 made anamnestic statements with regard to former diseases. Gonococci were found in 17 cases = 26%. Sometimes the gonorrhœa was not discovered before a second or even a third examination was made. These results are certainly unreliable, as apart from the absence of the urethral and cervical examination, many of the women had used a syringe shortly before the examination.

the Munich clinic for other complaints than diseases of the sexual organs. Though he found in 163 patients, that is, in more than 50%, leucocytes-containing filaments, and in further 83 patients, equal to 28%, mucous and epithelial floccules, he found gonococci only 10 times.

Scholtz made a similar investigation in 100 patients attending the policlinic for skin diseases and ascertained chronic urethritis in more than 20% of them. He thinks, however, that judging from his own observations and from those of others, genuine chronic infectious gonorrhœa can be admitted only in about 10% of all chronic catarrhs of the urethra. I am inclined to favour this view, if we take into regard the marrying-men of all classes. The lower classes are however sure to be represented to a greater extent. Unfortunately in young married working-men sub-acute forms of the disease still appear very often, and as to fresh infections acquired during married life, they are alarmingly numerous.

For the rest let me repeat what I have said above in detail. No statistics can be of any use in judging a given individual case, no matter how careful and exact they are. The point is, in fact, to find out into which statistical group the individual in question belongs. Everyone must therefore be examined most carefully.

Frequency in women.—Gynæcologists also have attempted to establish the frequency with which they can demonstrate gonorrhœic infection in their material.

Sänger found in his private and policlinical practice 11.5%; on another occasion after a particularly careful investigation 18%; *Zweifel* in his private practice 10-11%, *Martin* 28.8%, *Oppenheimer* 27%.

Pregnant women were examined by *Oppenheimer* who found 27% with gonorrhœa, by *Schwarz* who found 12.4%, and by *Lomer* who found 28%.

Unfortunately there is not in these statistics a separation between the married and the unmarried, and none according to the rank or position of the persons examined, though just such data would be of the greatest importance for the selection of the necessary prophylactic measures.

I do not propose to deal here with the special frequency of the diseases of the appendages in women but should like to refer the reader particularly to the work of *F. Schenk* in which will be found a recent compilation of the literature and material on the subject.

With regard to gonorrhœa as a cause of sterile marriages three points must be taken into consideration separately.

1. How often is the husband only the cause of the sterility without an infection of the wife taking place?

2. How often is the gonorrhœic disease of the wife the cause of the sterility?

3. But then, how often is the husband responsible for this gonorrhœic infection of the wife, that is, how often is the husband ultimately responsible for the sterility of the marriage?

I will quote here only the two excellent statistics supplied by *Lier-Ascher* from *Prochowski's* clinic, and by *Schenk* from *Sänger's* clinic. I want only to emphasize that it was *Kehrer's* merit to have pointed out first in what an enormous percentage of the cases it is not the wife but the husband, and the latter, again, on account of his gonorrhœic disease, that is the cause of the sterility of the marriage. I only just wish to mention also that *Vedeler* ascribes the sterility to the fault of the husband in 70% of the cases, *Schuwarski* in 40.8%, *Olshausen* 50%, *Rosthorn* 40%, *Chrobak* 34%, etc.

Only such examinations can assist us in answering the 3 questions enumerated above, in which both husband and wife were examined.

Lier-Ascher found:

ad. 1. In 132 married couples thus examined, among the husbands:

42 equal to 31.8%, with azoospermia,
11 equal to 8.3% impotent.

ad. 2. 41 had infected their wives with gonorrhœa, consequently,

ad. 3. the ultimate responsibility of the husband for the sterility is to be reckoned as 71.2%.

In addition to these 132 women, 95 other married women were examined on account of primary sterility. Among them were 53 suffering from gonorrhœa. The examination of the 95 respective husbands had to be omitted for various reasons.

Gonorrhœically diseased were therefore among the entire number of $132 + 95 = 227$ primarily sterile women, 41%.

A second series refers to 197 sterile marriages due to the acquired sterility of the wives. If 48 cases of coitus reservatus are deducted, there remain 149 marriages. Among these the fault lay on the husband's side in 37 cases = 24.9%, (2 cases of azoospermia, 35 times gonorrhœic infection of the wife.)

Schenk reports from *Sänger's* material 110 cases where both husband and wife were examined. He found:

ad. 1. Sterility, caused by impotence, azoospermia and oligospermia, 51 = 46.4%.

ad. 2. Transference of the gonorrhœa to the wife, 14 cases = 12.7%; therefore,

ad. 3. Sterility, effected through previous disease of the husband in 59.1%.

In 287 cases of primary sterility the wives only submitted themselves to examination, and in these gonorrhœa was found to be present 107 times, that is, in 34.8% of the cases. No less than 79 of these women (25.1%) had already diseased appendages. In 21 cases of secondary sterility, gonorrhœa was 9 times the cause of it.

V. Prophylaxis.

But is it not possible to avert all these serious injuries which gonorrhœa causes to the married state?

How the question of the danger of the infectiousness is to be decided I have already described above in detail, and shown that as a matter of fact our present examination-technique is so much improved that it is possible to ascertain almost without any doubt whether a man or woman is still capable of conveying gonorrhœal infection or not. The point is therefore

that both the medical profession and the public shall make use of this possibility as frequently as circumstances will allow. There is, indeed, no doubt that the beneficial consequences of this proceeding are already making themselves felt at the present time. As far as we medical men can judge from the number of male individuals who consult us for the purpose of obtaining a consent to their marriage, and from the solicitude which men begin to devote to the treatment of their gonorrhœas, the number of those who enter the conjugal state with the disease uncured must already be considerably smaller than was the case 20 or 25 years ago. In this way, too, there is a diminution in the number of those cases of gonorrhœa which appear to us to be the saddest, namely those in young married women. Among the poorer classes, certainly, the dangerousness of gonorrhœa is not yet recognised; the men particularly are under the impression that as soon as the subjective symptoms have been removed, careful treatment is no longer necessary. Of course, such recklessness finds its revenge not only in the spread of gonorrhœa among the women who have extra-conjugal intercourse with these men, but also in the infection of the girls who get married to them. It would almost seem that the better plan to solve the problem would be the dissemination of the necessary information as to the danger of sexual diseases and of gonorrhœa specially, not so much among the men as among the women. Perhaps the knowledge of the risks which not only syphilis but gonorrhœa also has in its train, would help to deter many women from illicit intercourse as much as is done nowadays principally in the case of most girls by the fear of becoming pregnant.

As to the attitude to be adopted in the presence of men who exhibit an *impotentia generandi*, I have already dealt with it above. It would certainly not be a difficult thing to find out almost every one of these cases, which are in reality not suited for the married state, if all the men contemplating marriage would only submit themselves to a proper preliminary examination. As long as this is not done, we may take it for granted that a good many men will in spite of their azoospermia or necrospermia, get married in the belief that they

are able to do full justice to all their marital obligations; for very few indeed know that it is possible for the *potentia cœundi* to exist unimpaired notwithstanding a destroyed *potentia generandi*!

Doctors are, however, frequently consulted on account of misgivings with regard to the *potentia cœundi*. But nothing is more difficult than to offer appropriate advice in this direction, unless one takes up the drastic standpoint to refuse one's consent to the marriage in every case which presents even nothing more than a diminution of the virile power.

It will therefore be necessary to take cognisance of all the factors which apply to each individual case and to decide accordingly. These factors are:

1. The age of the patient.
2. His general physical condition especially the presence of nervous and neurasthenic tendencies or of already developed "psychical" disturbances.
3. The kind and degree of an already existing disturbance in the virility.

In this connection there are to be taken into consideration not only the purely physical conditions, but also the purely psychical elements which influence the sexual life and the virility of every man. It would also, of course, be of especial importance to know the female individual with whom marriage is contemplated and to subject her to a close observation where such a procedure is possible, since the charm proceeding from the woman plays an eminently decisive part in exciting the desire and virility of the man. There is further to be considered the variable sexual requirement of females, and perhaps local anatomical conditions of the female genitals which may render cohabitation with a man not in possession of perfect virility difficult or impossible.

It would certainly be wrong in all such doubtful cases to prohibit the marriage straightway, for often marriage is just the factor that makes the men healthy again. Often enough the result is in spite of a somewhat reduced virility a happy married life, not only for the husbands but also for the wives.

Finally, it is to be remembered that the very cases of post-

gonorrhœic disturbance of the *potentia cœundi* are very frequently amenable to treatment, since they are caused by local conditions, and that a refusal of the consent to the marriage should never be pronounced before a careful therapeutic attempt has been made.

With regard to women, the question of consent to the marriage resolves itself really into the ascertainment whether a previous disease of the appendages should be regarded as an obstacle to matrimony or not. Of course, the marriage of a woman, like that of a man, who is affected with a form of the disease which is still infectious on account of its gonococci-carrying nature is out of the question, but on the other hand gonorrhœa which has not ascended, hardly ever causes any disturbances which need be taken notice of in connection with the subject of marriage. Here also, therefore, we have to decide each case on its merits, and to take into consideration on the one hand the question of infectiousness and on the other the question whether any organic changes have arisen which might prevent an eventual pregnancy.

Where we have an acute gonorrhœa to deal with, that is, in association with infections occurring during the married state or with individuals who marry while yet suffering from acute gonorrhœa, the possibility must also not be lost sight of that complications and metastases caused by gonococcal invasions, especially in the joints and in the heart, are factors to be reckoned with. These forms are, however, of rare occurrence as compared with the enormous number of cases of disease of the appendages arising in connection with acute infections in women.

We have seen above that by a careful medical examination it is possible to recognise the principal dangers accruing to the married state from a previous gonorrhœal disease, and that the medical man is therefore in a position to form an opinion as to the admissibility of a contemplated marriage.

But the question arises: Is this sufficient to ensure a healthy married life from all points of view? Have the legitimate interests of both parties to the contract received their due recognition by the fact that one of them has obtained a one-

sided consent to the marriage? We must not lose sight of the fact, no matter how highly we value the success achieved by medical science and medical skill, or the conscientiousness and care with which the medical examiner has carried out his duties, that the possibility of a mistake being committed by the doctor, is after all, not altogether to be avoided. Under such circumstances, then, it ought to be demanded that in marriage, like in any other contract, both sides should be in possession of all the information on the risks they are incurring, so that they could come to a decision accordingly.

The demand that not only the prospective husband should obtain from his doctor the consent to his marriage, but that the would-be wife, or her parents, should be informed on all points is the more justified as the injurious consequences of an eventual infection occurring, notwithstanding the favourable view of the medical examiner, have to be borne not by the husband but mainly by the wife.

And of what use is afterwards to the wife who has been infected by her husband the consolation that the latter has before the consummation of the marriage subjected himself to a most scrupulous medical examination? Morally, no doubt, he is to a certain extent acquitted, but the whole injury nevertheless falls upon the innocently suffering wife.

Necessity to enlighten the wife.—The ideal state of affairs would therefore be for both parties to a projected marriage to discuss before its accomplishment not only the social and economic arrangements, but also the question of their reciprocal health. As a matter of fact I know quite a number of cases where this point was made the subject of the frankest discussion and where it was settled to the full satisfaction of all the parties concerned. It cannot be denied that the conduct of the man who takes this course fearlessly and honestly deserves every praise and recognition.

We know, however, to our regret that such voluntary action is taken by very few men. The prejudice existing universally against sexual diseases is responsible for the disastrous inclination to keep secret everything connected with them, and is, with respect to the subject of marriage particularly, sufficient

to explain the silence maintained on the point. Who likes to speak on the eve of his marriage of former sexual intercourse or haply of sexual disease?

Eventual compulsory measures.—But if the enlightenment of the girl's parents on the part of the suitor—for the sake of simplicity I will take this as the most frequent situation—does not take place voluntarily, can it not in any way be obtained by compulsion directly or indirectly, so as to secure for the would-be young wife a certain amount of protection from the injurious consequences of a possible previous gonorrhœa of the husband?

The suggestion has been thrown out that each of the contracting parties to a projected marriage should produce before the civil authorities a certificate of good health. Others, again, see in the introduction of some sort of compulsory life-insurance previous to the consummation of the marriage a means to prevent matrimonial union with individuals who are obviously diseased or strongly suspected of being so.

Certificate of good health.—That such arrangements would in very many cases accomplish a great deal of good cannot be doubted, and it cannot even be said that there is any serious objection to a legal enactment providing for the obligatory certification of the health of would-be married couples, so long as it would be left to the discretion of the contracting parties to make what use they like of the information supplied by the compulsory medical certificates. I cannot, however, see the feasibility of giving to the State the power to prohibit any marriages for reasons of health or disease,—unless it be one of those gross cases of affliction or infirmity where marriage would appear almost as a severe offence.

I need only recall how often—and with regard to the so-called “chronic gonorrhœas” particularly we have discussed the point at some length—medical opinion varies as to whether a man is still infectious or not: even scientific medicine is not unanimous in its views on certain points. Or shall we establish some sort of superior medical court to decide who is to marry and who is to remain single?

If the proposed arrangement would, however, confine itself

to demanding a certificate of health from each party to the projected marriage to be submitted to the inspection of the other, we should achieve what I laid down as being necessary, namely that the two individuals about to marry one another should be made acquainted with each other's previous history before taking the ir retrievable step of joining their fortunes for good or evil. It would, of course, follow that the contracting parties would have, like in life-insurance proposals, to mention the names of the medical men—if any—under whose treatment they have formerly been, and that the latter would be under an obligation to communicate their observations and views on the former diseases of their clients—of course, on the understanding that they are at liberty to disclose what was entrusted to them under the seal of professional secrecy.

Penalties.—We must further consider how infections during the married state could be made amenable to civil and criminal law.

Criminally, sexual infections notoriously fall under the heading of bodily injuries, and many cases would undoubtedly be followed by punishment if there were any prosecutors. The demand has been made that the physician shall communicate to the infected spouse the diagnosis, and explain to him—or her—the manner of the infection for the purpose of enabling the respective married couple to adjust their differences or to take the necessary judicial steps. The entire medical profession would doubtless resent such a duty being thrown upon it in these general terms. In very many cases the doctor has certainly no objection whatever to giving his client—husband or wife—the desired information or to naming the precautions to be adopted (f. i. if the treatment or the protection of the children demands it, etc.) : in many others, however, he would hesitate before doing so; and reflecting what melancholy results might ensue from his communication, he might feel inclined to adopt an expectant attitude; or he might make an attempt to become informed, perhaps by a joint consultation with the other partner, whether the interests of both parties would not be better served by throwing the veil of silence over the whole affair than by making an open and inconsiderate disclosure.

A good doctor is not merely a scientific expert; he must also be a helpful friend and a man of tact; sometimes he can confer by silence far more good upon both husband and wife than by telling the truth.

But most cases of conjugal infection with gonorrhœa cannot be touched by the criminal law because the husbands infect their wives neither with intent and premeditation, nor through criminal negligence. They are not criminally negligent in those cases either, where they get married in the honest belief that they are healthy and non-infectious, because they are not sufficiently well-informed in medical matters or because they are prompted to act as they do by the mistaken advice of their medical man. Criminal negligence could therefore only be constructed if it were possible to prove that the husband did think of the possibility that he was diseased, or that he ought to have thought so, and that he nevertheless did not obtain a medical consent to his marriage.

But even where this consent has been obtained, can it be relied upon with confidence as affording a sure safeguard? We have said above how difficult it sometimes is from the purely scientific point of view to come to a decision as to whether the consent to the marriage should be given or not. And have all medical men really at their command that measure of knowledge and skill which is required in order to do full justice to these difficulties? Do all doctors possess such a high degree of human self-reliance, that they are able to form an impartial and quite unprejudiced opinion without regard to all the wishes expressed by the advice-seeking client?

So as to make the medical opinion as conformable to the truth as practicable it might therefore be necessary, in order to obtain at least the highest possible protection, to make the medical man on the strength of whose opinion a marriage has taken place responsible for the infection occurring in unfortunate cases. Whether this is possible, depends upon whether it can be proved that he conducted the examination in a negligent manner, and also upon the form in which he communicated his opinion to the client.

But this, again, would certainly have the result that no

medical man would ever give an unqualified assent to a marriage, or else he would surround it with so many clauses that the patient would not be any the wiser. On the other hand this might, perhaps, have the useful result that the patients would, in order to get out of their responsibility, more frequently than formerly reveal to the other side the true state of affairs before the marriage is arranged. There would be, however, one injurious consequence, namely, that the men would cease altogether to seek medical advice since they could not expect the latter to be other than unfavourable or doubtful, and that consequently the elimination of those cases which are really dangerous to the married state would thus no longer take place.

A legal responsibility of the medical practitioner can therefore be imagined only on the supposition that a compulsory declaration of health on the part of the candidates for marriage has previously been decided upon in some way or other.

Since, as we have seen, a criminal prosecution for gonorrhœal infection of the married partner is hardly likely ever to occur the question arises: Is not a threat by civil action possible? Could it not be established by law that information respecting the fact of gonorrhœal disease having existed before the marriage, can under all circumstances be demanded as a right, and could not, on account of the omission to impart this information, a civil-law claim be instituted by the infected partner against the partner causing the infection?

To my mind this demand which has been formulated also by *Flesch* and *Wertheimer* is perfectly justified. It stands to reason that if the law is to be altered in this direction, further alterations would also become necessary in the Civil process, that would tend to establish the facts of the case. (See on the point the work by *Flesch-Wertheimer*.)

§ 300 of the German Criminal Code.—As a further means of protection for the married state the suggestion has been thrown out that compulsory or voluntary notification on the part of the medical profession might be introduced, involving the annulment or modification of § 300 of the German Criminal Code.

Compulsory notification can hardly be thought of seriously. It is sufficient if I mention that particularly with respect to the gonorrhœal infection in the married state with which we are dealing here, diagnostic infallibility on the part of the medical man is entirely out of the question, and that in numerous cases the patients give to the doctor a wrong name or none at all. It is obvious that this practice would be adopted far more if it were known that an obligation rests upon the medical profession to interfere preventively in connection with all sexual diseases by notifying the cases coming under their observation.

More plausible is, however, the suggestion that the natural wish of parents to protect their daughter who is about to be married, from an eventual conjugal infection, should receive official recognition and satisfaction by the suspension, with reference to cases of marriage, of § 300 of the German Criminal Code, which imposes upon medical men the obligation to maintain silence on matters of which they become cognisant in their professional capacity.

There is no doubt that at the present time a doctor would be liable to punishment if he were, contrary to § 300, to give information in his possession to a person about to be married regarding the illness of the individual whom he or she is marrying and whom he—the doctor—has attended professionally. This is not the place to enter into a detailed discussion of all the reasons which have been adduced in favour of or against an alteration of this § 300. But I should like to express the opinion that with the exception of such legal cases in which the issue often depends on the medical expert's evidence exclusively, the importance of the paragraph is in practice not so great as to make it worth while to have a serious controversy on the subject of its abolition or retention. Either the doctor has no opportunity at all to offer any advice on the point because he knows nothing of the marriage-projects of the patients who were formerly or quite recently under his treatment; often enough he does not even know their real names; he would not therefore be in a position to use his warning voice. Or else, he can in spite of the existing law sound a note of warning,

when approached for information, while adhering strictly to the standpoint that he is bound to refuse the request. In fact I always try to avoid to learn the name of the person with respect to whom information is desired, so that my refusal to divulge what I know cannot be interpreted as a sign that my answer would in any way be unfavourable to my client. But I am quite at liberty to say to the party questioning me: "Induce the person respecting whose health you wish to make inquiries to come here with you. If he will authorise me in your presence to give you what information is in my possession, I will tell you all about him."¹

In this way the situation is made clear to anybody with some common sense. If the person suspected of having a disease does not allow the doctor to speak openly and frankly, the party desirous of knowing the real state of affairs (perhaps, the future father-in-law) can draw his own conclusions as to the reason why the information is refused.

The necessity of general enlightenment.—

The question resolves itself therefore into shedding as much light as possible on the danger which sexual diseases involve for the married state, into causing as many parents as possible to inform themselves as to the health of the men to whom they are on the brink of entrusting their daughters. This plan seems to me at least just as efficacious in preventing the misfortunes caused to married couples by gonorrhœa and other venereal affections as the general abolition or modification of the § 300. The latter course, in fact, I should very much deprecate since the paragraph in question undoubtedly facilitates to many men the way to the consulting rooms of the medical profession.²

¹The French law forbids the imparting of such intelligence even though the client authorises his doctor to do it.

²All the questions touched here briefly have been discussed by the *Société française de prophylactique sanitaire et morale* at several very interesting meetings. (See Bulletin of this Society 1903. Fascic. 6, 39.) It was unanimously decided that those about to marry, or their respective parents, should be supplied by the official preparing the necessary documents relating to the civil marriage with a printed form calling attention to the dangers of sexual

Facilitation of divorce.—Finally, protection against the more or less reckless introduction of disease into the mar-

diseases.—The following outline of such a circular has been presented by *Jullien* in the name of a commission:

"INSTRUCTION TO FUTURE HUSBANDS AND WIVES:

You are about to marry one another and to create a family.

You have on the strength of your mutual attachment and of your material conditions decided to lead a joint happy married life.

But it is just as important to think of your health from which will depend also the health of your partner and that of your children.

Perhaps, you have had the misfortune to contract one of those infectious diseases which are popularly called 'diseases of youth,' 'venereal diseases' or—very wrongly—'shameful and secret complaints.'

Two of these, gonorrhœa or the 'clap,' and syphilis or the 'pox,' may bring to a family the direst consequences.

If you get married while still suffering from an infective stage of one of these diseases (gonorrhœa—a still existing discharge; syphilis—the presence of a rash on the body or of pimples on the mucous membranes), if you therefore convey with your full knowledge and with absolute certainty your disease to the individual who places trust in you, it constitutes a crime. Whoever becomes guilty of such an infamous action, brings upon himself a shameful and disgraceful future, and may probably have to look forward to a legal dissolution of the marriage and the division of the common property.

Gonorrhœa is conveyed through a discharge from the urinary passage—possibly only through an apparently insignificant drop in the morning,—and is apt to cause, particularly in women, a series of complications (inflammation of the womb, peritonitis, etc.). It frequently gives rise to a long illness necessitating staying in bed and sometimes severe operations, and leads with almost absolute certainty to barrenness and in very many instances to blindness in new-born infants.

Syphilis, which commences with a small sore spot and which leads subsequently to eruptions on the body and on the mucous membranes, can attack in its further course all the organs, and will cause, if the brain also become affected, very often softening thereof and insanity. Children of syphilitic parents are liable to die while yet in their mother's womb, or they come into the world misshapen and deformed. They can infect their wet-nurses, and those around them, so that it may come to actions for damages and to a public scandal.

Remember, that even with an energetic treatment, and even after many years, the cure of the disease may be insufficient and incomplete.

It is therefore the duty of every honourable man to let himself be examined by a qualified medical man.—But be on your guard against quacks!—You will then know whether you are completely cured, and whether you may get married without risk or whether you must yet postpone your marriage for a while. In this wise you will avert a great calamity!"

ried life is sought to be obtained, and not without justification, by the recognition of venereal disease in particular as an especial ground for divorce. At the present time, however, and especially since the new Civil Code has come into force, sexual affections and particularly gonorrhœa can only with very great difficulty be depended upon as evidence by which a dissolution of the marriage can be obtained. And yet it may safely be assumed that many men who have become, as husbands, dangerous through former sexual disease would not have married, or that they would, at least, take greater care in having their gonorrhœa properly treated and thoroughly cured, had they reason to fear that a painful situation, more or less detrimental to their social position, were likely to arise later on through their being declared guilty in eventual divorce proceedings.

In this question, too, I agree entirely with *Flesch* and *Wertheimer* on every point. Uncouth as it may seem, the statement that the sexually infected wife is in most cases deprived of her rights and that she cannot as a rule even claim damages, is nevertheless in consonance with the facts.

Flesch and *Wertheimer* lay down the following proposition: Since medicine is unable to exclude the theoretical possibility of gonorrhœa and syphilis being acquired by the wife apart from sexual intercourse, the legal position of the mar-

Ledermann thinks that a great deal could be achieved by the authorities warning those diseased or uncured individuals, who contemplate marriage, by means of a printed circular handed to them when making the necessary declaration, and containing some such words as the following:

"All persons who intend marriage are recommended, in their own interest as well as in that of their future husbands or wives and also in that of any issue they might subsequently have, to obtain beforehand a medical certificate as to the state of their health. Where infectious diseases are present the marriage should be postponed until a complete cure has taken place, so as to prevent a communication of the disease."

Translator's note: Though this part of the present article is written entirely from the German point of view and much of it can hardly be considered applicable to British or American conditions I have thought it advisable to reproduce it without any omissions as it gives a correct picture of the trend of continental opinion on the matter. That few will be disposed to deny the wisdom of the suggestions, goes without saying, but whether they are capable of being carried out in practice, that—as *Kipling* would say—is another story!

ried woman who has been infected by the husband is such as to practically debar her from obtaining redress at law, for under the existing method of procedure it is not always possible to furnish direct proof that the infection originated from the husband.

Alteration in the method of procedure.—"It must therefore be demanded that gonorrhœa and syphilis if they occur either directly or indirectly in a person living in the married state, shall be considered *eo ipso* as a ground for divorce without it being necessary to prove adultery."

"The second demand is the admissibility of the compulsory administration of the oath in all those applications for divorce which rest upon the presence of syphilis and gonorrhœa, as evidence of the facts which relate to the origin and nature of the disease."

"Finally it is to be demanded that the medical advisers of sexually diseased married individuals shall, in questions relating to marriage and divorce which depend upon the presence of syphilis and gonorrhœa, be called as experts or expert witnesses, with the proviso that they are exempted from the obligation to maintain professional secrecy."

"Where a marriage is dissolved, the husband or wife who has been infected by the other partner shall have a claim for maintenance, such claim for support and damages to arise quite independently of the circumstance whether the infecting partner was or could have been aware of his illness. The fact that infection did take place must be sufficient."

"Or it should be laid down at least, that the infecting partner being the cause of the injury, shall have the onus thrown upon him of proving that the injury, i. e. the infection, occurred in spite of the requisite care taken by him, while at the present time it is the infected party who must prove that the infecting one caused the infection intentionally or negligently."

Supposing the proposals just discussed, or a part of them, were adopted in practice, what would be the result? At first, no doubt, fewer men,—for it is principally the male sex for whom the regulations are intended—would marry. After a

time however, and gradually, that would be achieved which we all desire so ardently, not only for the protection of the married state from the dangers of gonorrhœa and other sexual diseases, but for the protection of the nations in all their ranks and classes:

1. A restriction in the pre- and extra-nuptial sexual intercourse—which is at present decidedly practised to a greater extent than physiological necessity dictates—so as to avoid the dangers of such intercourse.

2. A more extensive familiarity with, and application of, the measures calculated to prevent gonorrhœal infection, among those who cannot or will not refrain from sexual intercourse.

3. A far more careful treatment of acute gonorrhœa, from which, of course, mainly depends the future improvement in respect of all injuries arising from gonorrhœal disease. Only a very small fraction of the intra- and extra-nuptial infections which after all are generally unintentional, and not even always recklessly occasioned occurrences, only a fraction of the still numerous complications, metastases and sequelæ, would continue to happen if gonorrhœa were properly treated and a cure attempted during the acute stage—an object by no means difficult to attain in the majority of cases. Two factors must, however, co-operate for this purpose, namely doctor and patient.

If it was formerly possible to accuse medical science that it was not equal to this task, this is no longer the case. Medicine has at its disposal on the basis of the recognition of the gonococcus ample diagnostic and therapeutic auxiliaries, and what scientific medicine teaches, becomes daily more and more the common property of the medical profession.

But the lay public is still disinclined to acknowledge the importance of gonorrhœa and the necessity of treating it carefully and seriously from the very first day. Our object must therefore continue to be the oft-repeated inculcation of the truth, and a specially effective means of warning will be found in the dangerousness of gonorrhœa and of its results to the married state!

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XV

Syphilis in Relation to Marriage

XV

SYPHILIS IN RELATION TO MARRIAGE

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More often than in any other disease the physician is asked for his opinion in connection with the so-called sexual diseases as to whether an individual who was formerly infected, may marry and if so, how long after the infection, and also as to whether and how far the future family of the candidate for marriage is thereby endangered. In contrast with gonorrhœa which offers by our knowledge of its causative agent discovered by *Neisser* a valuable guide in the determination of the contagious character of the disease, we are when in the presence of syphilis of whose exciting cause we are still ignorant, entirely dependent on purely empirical observations in all the questions pertaining to the risk of infection. This is especially the case when considering the point, if a cure may be regarded as definitive, as knowledge derived from empiricism is never absolutely reliable. Happily, however, syphilis is a disease which unlike any other almost has for centuries been studied in all its minutest details, which has been investigated by generations of the most experienced observers in all the branches of medicine with regard to its effects and consequences, so that we are in a position to draw from the enormous material at our disposal certain conclusions if not with absolute certainty at any rate with a high degree of probability.

For the contraction of marriage syphilis acquires a special importance in contradistinction to gonorrhœa in which the infection takes place only through the external transference of the poisonous substance onto the mucous membranes predisposed to it, by the fact that in addition to being transmissible by external infection, it is also communicated through the medium of the germ-cells, exposing thereby the offspring to a great danger.

It seems therefore advisable to arrange the discussion of the questions relating to this chapter in two groups, viz.:

1. What is the importance of syphilis with regard to the contraction of marriage?
2. What are the consequences of syphilis in the married state?

Is syphilis curable?—As regards the discussion of the first point, we have first of all to remove a prejudice existing less among the medical profession than among the lay public, namely that syphilis is incurable. The correction of this view is the more important in view of the following observations, as otherwise a great part of them would be quite superfluous; for were syphilis, indeed, an incurable disease which endangers by its communicability the other and healthy partner as well as the offspring, it would, of course, be necessary for the medical profession to refuse in every case consent to the marriage of a syphilitic, and in this way the first part of our subject would be done with. Fortunately this pessimistic attitude is not justified; for many thousands of observations by medical men (including such experienced observers as *v. Sigmund, Kaposi, Fournier, Neisser, Lesser* and others) and by laymen whose judgment is worthy of attention and who, having formerly suffered from the disease, married after perfect cure, and lived to an old age in full health and undisturbed family happiness, support the view that syphilis can be cured so as to leave no injurious consequences behind either in the ex-patients themselves or in their families. We have a further proof of the curability of syphilis in the frequently observed re-infection with the disease of patients who have formerly suffered from it, since we know from experience that as long as syphilis lasts a fresh infection does not usually take place.

But having thus demonstrated that syphilis is curable, we have at the same time answered in an affirmative manner the frequently ventilated question whether a syphilitic may marry at all.

When has a cure been effected?—We must ask ourselves, however, when is a syphilitic to be regarded as

cured and under what circumstances may he be permitted to marry?

The answering of these questions requires great circumspection and it can only be done by most carefully weighing the whole course of the illness, the treatment adopted and all the other circumstances relating to the general constitution of the individual formerly affected.

It is, of course, clear that no syphilitic may marry so long as infectious symptoms of the disease are present, since he might disseminate the same by direct contact as well as by the common use of domestic utensils, but above all by the process of generation or conception respectively. Unfortunately this apparently simple and evident principle is often disregarded, as shown by the numerous cases of syphilitic infections observed daily in marriages but recently contracted. The momentary absence of diseased conditions is, however, not always a proof of cure, since syphilis often presents latent periods which may last for years and during which there are no outward signs of the poison still slumbering in the body with its virulence unimpaired.

Duration of syphilis.—To estimate an established cure other conclusive factors serve as a guide, above all the duration of the syphilis. The further removed the period of the infection, the smaller the danger of the infection being passed to others, and let it be pointed out at once, that the danger of transmission to the offspring often lasts much longer than the period of direct communicability. It is generally supposed that the transmissibility of the disease by contact disappears in about 3 or 4 years after the infection. This statement, however, which is found in all the well-known text-books, is with regard to the consent to marriage too vague, and though it may apply to the majority of cases it is too much modified by exceptions to claim general acceptance. For although cases are known in which marriages, recklessly entered into by syphilitics in the first years of the illness, have turned out happy and have not resulted in a transmission of the disease, there are on the other hand instances in which infectious symptoms often appeared and transmissions occurred five, six and even

ten years afterwards. A definite statement as to the time during which the danger of infection exists is therefore not sufficient for our purposes; it requires supplementing by other factors as well which enable us to fix somewhat more sharply the time-limit of the cure.

Course of the disease.—Among these factors we must take into consideration in the first place the course the disease has taken during the first years of its existence and the treatment adopted and carried out. It is true that far-reaching conclusions with regard to a radical cure cannot be drawn simply from a so-called benign course, by which is generally understood the mildness and infrequency of the symptoms and their rapid disappearance in consequence of the treatment instituted. For often enough there occur in such individuals later on severe tertiary symptoms, perhaps, just because the patients, misled by the insignificance of their symptoms, do not attach the necessary importance to their illness and are more remiss in having themselves treated properly than others whom oft-recurring symptoms bring to the doctor more frequently. On the other hand it must also be remembered that if in strong and sensibly-living people who are during the first 3 or 4 years under good medical supervision and successful treatment, the syphilitic disease takes the above-described satisfactory course and the general constitution does not in any way suffer, we are to a certain extent in a position to offer a favourable prognosis for the future.

Less favourably we must judge those cases in which secondary symptoms keep accumulating for years, among which those with frequently recurring symptoms of the mucous membranes seem to offer more unfavourable prospects with regard to the termination of the disease than the cutaneous eruptions which generally recur more seldom and which generally also respond better to the treatment adopted. Perhaps, the frequent recurrence of the mucous patches, especially of the mouth and pharynx, is in men principally due to the numerous local irritants such as nicotin and alcohol, by which fresh proliferations of the poisonous substance are produced again and again. At any rate syphilitics who aver that they have for years suf-

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ferred from numerous and obstinate relapses of the disease, must be judged with far greater care in respect to the question of a definite cure. Against that we see in patients with numerous relapses during the first months after the infection, that the syphilis frequently runs its course in later years without any deviations, so that there is no necessity to depart from the general rules which influence the decision as to whether a marriage is permissible or not.

That the so-called syphilis præcox, that is the form of the disease observed not very frequently in patients who have been well treated, in which more or less numerous signs of tertiary syphilis appear very early, often in combination with secondary symptoms, or in which more secondary symptoms follow after tertiary ones,—that this form offers to begin with a worse prognosis for the further course of the disease, as is asserted by some authors, is not by any means true. On the contrary, such persons, if they have been suitably treated, have often been known to get well in a reasonable time and to live a happy married life without injury to themselves or their families.

The case is, however, different with those who have suffered from the very beginning of the disease from "malignant syphilis." By this we understand cases in which—frequently, but not always, in association with phagedænic primary lesions—papulous-pustulous eruptions of the skin and the mucous membranes appear at an early stage, cases which, often resisting the mercury treatment, result as a rule in severe ulcerous injuries and are accompanied by marked general cachexia. Although it is possible to succeed finally in curing these patients completely within the ordinary period of time, there remains, nevertheless, in many cases a weak state of the organism which must be taken into account when the subject of marriage is under consideration. In this connection we must also bear in mind that very often debilitating conditions are present in the body as the cause of malignant syphilis and these alone may play an important part in deciding the marriageableness of the individual in question.

The question is finally to be considered how patients, who

have at any time suffered from tertiary symptoms, are to be judged in reference to a permanent cure and the consent to an eventual marriage. The opinion that tertiary products as such are not infectious, and that as a matter of fact the occurrence of these symptoms after a prolonged latency is, indeed, evidence of the disappearance of the infectiousness, can no longer be sustained as a generality. With certainty we can only say that tertiary products may yet appear at a time when syphilitics have so to speak demonstrated experimentally—by the procreation of healthy children—that they are not infectious. But we also know, and attention has already been called to this, that tertiary symptoms often appear very early, that is to say, at a time when every lesion is capable of causing an infection, and there is no apparent reason why at this stage a transmission should not take place through the secretion of a gummatous ulcer just as easily as through a rhagade in the skin. It is not therefore from the occurrence of the tertiary product as such that the extinction of the infective stage can be judged, but exclusively from the period of its occurrence after the infection. The later a gumma appears after the infection and also the longer the time which has elapsed since the disappearance of the last symptoms of the condylomatous period, the less will the danger of transmission be present; and we can probably therefore lay down the general principle that persons who have after a prolonged latency of secondary symptoms been seized by symptoms of a tertiary character are no longer a source of danger to others. There are, however, exceptions to this, though they have no practical importance from the point of view which concerns us here, as proved by a case communicated by *Sack* in which a transmission of syphilis took place from husband to wife through a gumma ten years after the infection.

It is clear that it is necessary in persons who have suffered from late symptoms, when considering the question of consent to a marriage to pay attention in addition to their infectiousness, also to the seat and frequency of the tertiary symptoms, and where vital organs were affected, especially after visceral or cerebro-spinal syphilis, to give that consent after a most

careful deliberation only. Repeated relapses in these organs must, however, even if the patient has withstood them safely and without any ill-results, be regarded as a contra-indication against a contemplated marriage or they must dictate at the very least a further observation-period extending over many years. The consequential results of late symptoms must naturally also be taken into account, and if the same have left behind permanent defects and functional disturbances, consent to the marriage can only be given with the greatest reserve.

Treatment of syphilis.—An important indication determining the time of a complete cure is further supplied by the specific mercurial treatment which has been carried out. No matter how the views of the various authors differ as to the manner and accomplishment of this treatment, there is no doubt whatever on one point, namely that the more thoroughly and energetically a patient has been treated during the first 3 or 4 years of his illness, the more favourable the prospect of a rapid cure and of the freedom from late tertiary manifestations. It will therefore be much easier later on to grant the consent to marriage to an ex-syphilitic whose illness has taken a normal course if the history of the case shows a thorough treatment, than to a person with a similar outward course of the disease but whose treatment was insufficient. In the latter case one should prefer to recommend a longer period of observation and to utilise the same for purposes of treatment.

Period of immunity.—Besides considering the course of the disease and the kind and efficiency of the treatment adopted, there is another point which is of great importance to the consent to the marriage, namely, for how long since the last appearance of the symptoms the patient has been free from syphilitic manifestations. This interval which *Fournier* calls the period of immunity is in so far of importance, as the further back the last signs of the disease have been observed the greater the probability that the activity of the disease is at an end, and that the illness has passed the acute infectious stage which is characterised by the occurrence of more or less frequent secondary symptoms. As has already been mentioned, the absence of symptoms in a syphilitic is not in itself

a reason for supposing that the disease is extinct, since the course of syphilis is notoriously often distinguished by prolonged latent periods. But if a syphilitic has successfully withstood the first 3 or 4 years of his illness the circumstances being normal and the treatment good, and if he has also behind him a certain period of time, which is differently estimated by different authors, in which no symptoms have shown themselves, the physician may conscientiously regard the patient as cured, or at least as no longer infectious, and give his consent to the contemplated marriage of the individual applying for the same.

Generally speaking the contraction of a marriage may therefore be allowed if at least 5 years have elapsed since the infection took place, if no more manifestations have occurred during the last 2 years, and if the patient has received an energetic and thorough mercurial treatment.

The principle has, moreover, been generally adopted, which has almost assumed the form of a law, that the consummation of the marriage must be immediately preceded by a last mercurial treatment—the so-called “safety-cure.” Where secondary symptoms appear at a later stage the date of the marriage must be postponed first for two years and then made dependent upon a renewed examination. Tertiary symptoms cannot as a rule be regarded as an absolute marriage-obstacle if they have occurred later than 5 years after the infection and at least two years after the last manifestation of secondary symptoms, and if they have not attacked any vital organs. Even then their cure must be awaited if it is only for æsthetic reasons; an observation-period of one year is also necessary, as there may occasionally arise obstacles to a marriage from the scars and injuries left behind after the cure.

It is impossible for the physician to give an absolute guarantee that eventual injurious consequences will not make their appearance after the contraction of the marriage, seeing what a variable clinical picture syphilis constitutes. He is, however, perfectly justified, as *Neisser* truly says in his popular thesis: “Is Syphilis Curable?” in expressing an opinion on the basis

¹Published by Vogel and Kreienbrinck. 1903.

of what medical science has ascertained by the work of centuries, as to whether the probability that a cure has been achieved is so great that the advice-seeking patient may consider himself healthy and that common honesty permits him to get married. If in spite of all the care exercised, unfavourable consequences appear nevertheless during the married state, the same must be included among the list of unfortunate accidents to which all mankind is liable.

These considerations which the physician has to ponder over in the case of every ex-syphilitic candidate for marriage, when asked for his opinion on the possibility of that step being taken, are naturally very much facilitated if he is acquainted with the history of the patient from the time of the infection or if he has medically treated him. Very often, however, such candidate for marriage is entirely unknown to the medical man who is approached for an opinion. The doctor sees him for the first time, he must rely for the details as to the former symptoms of the syphilis and the treatment carried out, entirely upon the anamnestic data furnished to him by the patient seeking his advice who, desirous as he is to throw off his own shoulders all responsibility for any future mischief, is naturally tempted to answer the questions addressed to him in such a manner as to favour as much as possible the plan he is pursuing, and thus to deceive the examining physician. If the maxim "*omnis syphiliticus mendax*" is true with respect to such patients who still manifest active symptoms, how much more applicable is it likely to be to those whose entire future, perhaps, depends on the doctor's consent to a projected matrimonial alliance? In such cases the doctor should by an objective examination endeavour to find out whether his client is perfectly free from all symptoms or whether there are any residual signs which, though unimportant in themselves, yet permit of a conclusion to be drawn so far as the course of the disease is concerned.

Examination of the body.—This examination must embrace the entire body, and it should always take place in the best possible light, preferably daylight. The person to be examined must therefore be completely undressed. Every

present condition deviating from the normal must be carefully weighed from the point of view of a possible connection with syphilis.

Scars situated on the penis—apart from fresh indurated scars—do not in themselves permit of any conclusions with regard to former primary affections, as genuine hard chancres heal as a rule without leaving any marked scars or at the outside more than atrophic pigment-patches. If some ulcerations have left scars behind, they were either soft or mixed chancres or chancres of a phagedænic or gangrenous character. From the form of single scars, therefore, it is not possible to judge with certainty as to the original character of the ulcers. More important, perhaps, are the groups of cicatrices, arranged in an annular, serpiginous or kidney-shaped manner, which are characteristic of exhausted tubero-ulcerous or gummatous processes. If we find at the same time similarly arranged groups of scars in other parts of the body, they give us in conjunction with the anamnestic data a certain indication of the duration of the syphilis. Favourite situations of these cicatrices are especially the legs which are also frequently the seat of extensive gummatous scars; in like manner the borders of the frontal and nuchal hair, the hairy scalp, and more seldom the skin of the trunk. Such scars may, however, be present in any part of the body.

Of importance is the presence of indolent glands (f. i. inguinal, cubital and cervical) in those places which are well-known to have a predilection for syphilis. Their existence calls for increased watchfulness in estimating the duration of syphilis, as they are supposed to be no longer demonstrable in cured patients.

The presence of leucoderma which is observed more often in women than in men, and which is situated as a rule on the neck, but sometimes also on the back and shoulders, justifies the assumption that the syphilis has not yet passed the third year of its existence. It does occur, it is true, beyond the third year, but very seldom, indeed.

The examination of the skin of the gluteal region should be accompanied by palpation, for infiltrations are occasionally

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demonstrable in the *glutæi* which are the after-results of former injections of mercury.

The inspection of the anal region is apt to reveal the presence of condylomatous processes, not to be mistaken for hæmorrhoids. They are an indication that the infective stage of the disease is not yet at an end. This applies also to the streak-shaped alopecias which occur generally in the early stages, whilst a more diffuse loss of hair, though dependent on syphilis, takes place as a rule during later stages of the disease.

Where cutaneous eruptions are present, the diagnosis, whether they are syphilitic or not, encounters sometimes great difficulties.

The inspection of the outer skin must be followed by that of the mucous membranes, especially those of the mouth, the pharynx, including, if possible, the larynx, the rectum and vagina. The presence of mucous patches is a sign of infectiousness necessitating the postponement of the marriage for some years. *Leucoplaquia buccalis*, or the so-called *psoriasis linguæ et buccalis*, may be the consequence of former syphilis, but also that of other injuries. In any case it is no longer infectious. Where there is reason to believe that it is of syphilitic origin, the attempt to remove it by a mercurial treatment, is at all events justified. It is sometimes possible to cause its disappearance in this way.

A very suspicious symptom of a former syphilis is the so-called flat atrophy of the tongue. Its presence can be ascertained by the mirror and palpation. Other scars in the cavity of the mouth and pharynx also supply information with respect to a previous syphilitic affection.

One should never omit to examine the testicles, the syphilitic disease of which frequently remains unknown to the patient, while it can hardly escape detection by the palpating finger.

Finally, diseased processes in the nervous system often enable one to arrive at a conclusion as to a former case of syphilis. In how far they are of importance in relation to the question of matrimony is discussed in another chapter of this book.

The examination of the patient thus frequently yields valuable information on the course of the syphilis and indications for estimating the degree of its cure.

The result of the examination must be communicated by the physician to no one but the individual examined, and all information to his friends or relatives is to be categorically refused. It is sufficient to tell the inquirer that medical men are bound to maintain silence on all points concerning their practice and that they are at liberty to make disclosures only if authorised by their patients to do so.

The effects of syphilis upon the married state.

Syphilis and the married state.—Syphilis is introduced into marriage in two ways. Firstly, through one or both of the married partners entering the married state while suffering from manifest syphilis, and secondly through one or the other of the married partners becoming infected with syphilis, either by acquiring it in extra-conjugal sexual intercourse or by innocently falling a victim to it. The latter alternative may also happen sometimes through the children, who, having in some way or other been infected with syphilis, transmit it to the parents. Every individual thus infected is a source of danger to the other healthy members of the family. The circumstance particularly that the disease frequently remains unrecognised for a long time and therefore untreated, and the fact that the necessary precautionary measures are in consequence omitted, render the patient a focus of infection of the worst kind, so that the occurrence of the disease among several members of a family, nay, even regular house-endemics, are by no means rare events.

If one of the two spouses is affected with syphilis, the most important precautions to be taken are: thorough treatment of the patient, and protection of unaffected. The patient must discontinue sexual intercourse during the period of the infective stage of the disease the same as any unmarried syphilitic, and must not resume it without the permission of his medical adviser and without strictly complying with the precautionary

recommendations made to him. But he must also avoid all direct contact through kissing or sleeping with other persons, and all drinking-vessels and other objects, intended for his personal use, must not be used by anybody else. Although the danger of infection is not very great during the period when no symptoms are manifested, it is, nevertheless, possible for the most trifling injury which is even unknown to its bearer, to effect a transmission under favourable circumstances. If at all practicable, the children of parents of whom one or both suffer from syphilis, should be removed from the house.

In addition to the danger of infecting the members of the family who have hitherto been healthy, syphilis as such can influence married life most disastrously. Apart from the material damage entailed by the expense of the treatment, and by the more or less pronounced deterioration of the earning capacity of the patient, the psychical factors alone are sufficient to disturb the happiness of a married couple. To begin with, the consciousness of the syphilitic partner that he suffers from syphilis, especially if he has brought the disease upon himself through his own fault, is an element of the greatest injury to the married life, even though the existence of the disease should remain the secret of the infected party. This is aggravated if the other partner suspects or has positive knowledge of the true state of affairs. Very often this is the commencement of a permanent estrangement between husband and wife or even of an eventual dissolution of the marriage. Added to all this there are, moreover, the personal dangers to which every syphilitic is at all times liable on account of the incalculable character of the course of the disease. It is true that in the majority of cases the secondary stage takes a favourable course and does not materially affect the general health, if the treatment is properly carried out and the constitution of the patient is satisfactory. Most syphilitics, in fact, are able, by taking the necessary precautions, to follow their avocations. Nevertheless, there are exceptions to this rule. In the first place other constitutional diseases, especially tuberculosis, may influence unfavourably the course of syphilis, just as these disorders may in their turn be aggravated by a complication with

syphilis. But the course of syphilis itself is subject to many fluctuations, and particularly women suffer sometimes severely from nervous phenomena, which, presenting especially in the second stage of incubation the character of a serious infection, can become so acute as to keep the patient bedfast for a time. Worse still are those cases of malignant syphilis or "galloping syphilis" already mentioned, from which the patient very often emerges with his health permanently shattered.

What makes however syphilis as such a disease of so disastrous a nature is the possibility that every patient may at any moment be attacked by tertiary phenomena. So long as the latter restrict themselves in some form or other to the outer skin the danger to the general health is small. Mercury and iodine can cure them often in a comparatively short time. It is, however, different when internal organs, and especially the central nervous system, become the seat of the disease. If rapid and specific treatment is not at once instituted irreparable injuries may arise. As an example of many such cases let there be quoted one from the writer's personal experience in which a married man living happily with his wife and occupying a good social position was so unfortunate as to acquire syphilis extra-genitally and quite innocently. In the third year after the infection he suffered from an apoplectic seizure and as he had not told to his family doctor anything about his former illness no specific treatment was adopted. A permanent paralysis was the result and the consequence was that the family who had no other resources but a small pension, was thrown from comparative affluence into the most abject poverty. But we have already mentioned that energetic treatment during the infectious stage offers the safest protection against subsequent tertiary phenomena. If we bear in mind, however, how difficult it is to properly treat married persons when syphilitically infected after their marriage, we can well understand why tertiary symptoms are so very frequent among them particularly. It is just because married life possesses peculiar features of its own. Very many married persons no matter how they have acquired a syphilitic disease experience a natural reluctance to tell their spouses about it. They try to carry

out the treatment as secretly as possible which results in their being imperfectly treated and in their being more liable to succumb to the consequences mentioned. The danger of infection for the other members of the family is, of course, extraordinarily great in these secret cases. The syphilis of married women is particularly often neglected because it is frequently mistaken at the beginning or kept secret altogether, and treatment is instituted only when the disease has assumed a serious character. This is why so many statistics show a higher percentage of women than of men affected with tertiary syphilis.

Another reason why syphilis more often takes an unfavourable course in married persons than in young unmarried individuals is the more advanced age at which the illness is generally acquired by them. Experience teaches that in older people syphilis is as a rule graver and that it occasions at times particularly severe symptoms in the brain and spinal cord.

Apart from the specific combination of symptoms of early and late syphilis, every syphilitic is in the later stages endangered also by a series of diseases the connection between which and syphilis, though generally admitted, is not as yet satisfactorily explained on the basis of cause and effect. It is such diseases as tabes or general paralysis of the insane which occur in this way and which some authors regard as exhausted gummatous or interstitial processes, while others do not look upon them any more as real specific phenomena, but separate them as para-syphilitic or meta-syphilitic groups of diseases. At any rate these diseases which it is endeavoured on the analogy of the affections depending on the toxic effects of alcohol and nicotin to explain by a change in the tissues produced by the as yet unknown syphilitic toxins, are distinguished from the real specific phenomena by the circumstance that they are no longer influenced by mercury and iodine. At the same time some of these diseases are so serious and so disastrous to their bearers that they often result in permanent invalidism and therefore in the complete economic ruin of the entire family. Although the circle of post-syphilitic diseases is drawn by some authors so wide that many affections are brought into a direct

or indirect relation of dependency to syphilis without any justification, it is on the other hand far from improbable that in the future a number of these diseased processes will with a more perfect knowledge of their commencing stages be recognised as genuine specific maladies and again included among the phenomena of syphilis in a narrower sense. Fortunately a large number of properly treated syphilitics escape these dangers which threaten them at all times, so that they can after a bitter experience of bodily and often also of moral sufferings enjoy again later on an undisturbed family happiness.

Nevertheless statistical statements of life-insurance companies show with regard to syphilis a higher mortality-figure among the insured, a fact which is of the utmost importance to the married state particularly. Thus *Runeberg* (Ueber den Einfluss der Syphilis auf die Sterblichkeit unter den Versicherten. Deutsche Med. Wochens. 1900, No. 18-20) found about 15% of all the deaths of one insurance company caused by syphilis and he was able to ascertain the average age of former syphilitics as 43.4 years only. The average duration between infection and death was found to amount to 20.2 years. These figures can claim, however, only a limited conclusiveness, as they are based upon far too small a material, and most life-insurance offices, at any rate the German, do not attach such great importance to the dangers of syphilis as to decline the proposals of former syphilitics right away. They only make their admission dependent upon certain conditions which correspond on the whole to those laid down for the marriage of the syphilitics.

Transmission of syphilis to the offspring.—

One of the greatest dangers of syphilis in the married state is the transmissibility of the disease to the offspring. The same can take place in various ways:

1. Through direct infection of the children by one of the two parents who has acquired the disease in the course of the married life;
2. Through the transmission of the syphilis by the act of generation or through placental transmission during pregnancy if the mother is infected;

3. Through the infection of the child during the labour process itself, if the mother became infected in the last months of the pregnancy.

Infection of children born healthy.—As regards the infection of healthy-born children from parents who become infected with syphilis during the married state, the course of this form of the illness does not differ from that in adults. But as the mode of infection is almost always extra-genital, and the separation of the children from other children and adults for any length of time is exceedingly difficult, such children form a constant danger of infection to other persons, especially brothers and sisters, so that infections of entire families are by no means rare occurrences. Moreover, some parents naturally like to keep their illness and that of their children secret from servants and others, and in this way the necessary precautions and the requisite treatment are possibly neglected altogether. The consequence is that very often tertiary symptoms appear decades later, symptoms which are falsely attributed to inherited syphilis, while in reality they are due to infection during childhood. If other constitutional diatheses such as rickets and scrofula combine with the syphilis acquired during childhood, a mutual unfavourable action between them sets in, a factor of undoubtedly considerable importance in regard to the question of infantile mortality.

Hereditary transmission of syphilis.—Far greater attention is claimed by the so-called inherited syphilis (*syphilis hereditaria*). It is distinguished from the disease acquired through direct infection above all by the absence of a primary lesion; in all other respects however it may present the same phenomena as the disease acquired during extra-uterine life. There is not, of course, in hereditary syphilis a question of that hereditary transmission in the strictest sense the characteristics of which have been discussed in detail in another portion of this work, but of a genuine infection. The morbid products of hereditarily-syphilitic children are infectious in the highest degree and can be transmitted to other people, whereas real inherited qualities, such as mental abilities, resemblances and pathological conditions, are imparted to

the inheriting individuals only and can be further transmitted by the latter to their own offspring exclusively.

Undoubted as the fact is that the syphilis of the parents can pass to the children, we, nevertheless, know very little of the special processes under which this transmission is accomplished, and although we are accustomed to speak of the laws of heredity of syphilis we must not lose sight of the fact that these laws are subject to manifold exceptions. This designation appears to take a great deal for granted which by later investigations will, perhaps, be rectified.

According to present views syphilis can be transmitted to the offspring either by the father, or by the mother, or by both parents together.

Paternal or spermatic infection.—The transmission of the disease by the father, the occurrence of which, by the way, has in recent times been doubted by *Matzenauer*, probably without any reason, is to be explained as follows: The sperma impregnated with the infective virus penetrates at the procreative act into the healthy maternal ovum and produces in the foetus the symptoms of syphilis. Proofs that so-called paternal or spermatic infection does occur as a matter of fact can only be furnished by the demonstration of cases in which the mother is healthy at the time of the procreative act and during the period of gestation, and in which the child either comes into the world with the symptoms of syphilis well pronounced, or acquires the same shortly after birth, without an extra-uterine infection of the child having taken place. Evidence of the health of the mother, that is of her freedom from syphilis, can only be found in the fact that she becomes infected with syphilis shortly after the birth of the child. An infection of the mother long after the birth of the syphilitic child would be of no use as evidence, since re-infections, though they are rare, do occur, and the possibility is not excluded that the mother was still syphilitic during the pregnancy but that she has in the meantime got well again. Such cases proving the actual occurrence of paternal infection are known, though their number is, for the reasons to be specified directly, very small; they claim a special interest as they represent exceptions to a

very important process which has almost the character of an established principle and which is known under the name of *Colles' law* (*Law of Colles and Béaumonts*). According to this law the mothers of children who have inherited syphilis from their fathers are immune against syphilis even though they do not manifest any signs of syphilis. Such a mother can suckle her syphilitic child without fear of becoming infected while the same child is capable of infecting other non-syphilitic persons, for instance, its wet-nurse. As to how this immunity which applies to the great majority of cases is brought about, the opinions of authors vary very much. Some believe that the syphilitic fœtus developing in the uterus of the healthy mother transfers to her through the intermediary of the placental circulation certain immunisation-bodies by which it immunises but does not infect the mother. Others believe in the transmission of the more or less mitigated syphilitic poison in the same manner; many of these mothers are therefore syphilitically infected, though they show at any rate milder symptoms which pass on this account unrecognised more frequently than when the infection is direct. As a matter of fact the infection by their syphilitic fœtuses of mothers who were healthy at the time of the conception, apparently does occur, a process which is called by the French "*choc en retour*." For there have been observations made where married women who had intercourse with their syphilitic husbands for a long time, did not exhibit any symptoms of syphilis until they became pregnant.

At all events we consider the occurrence of purely paternal (spermatic) infections as certain.

Maternal ovular infection.—More difficult is the adduction of the proof that a syphilitic woman impregnated by a healthy man can transmit syphilis to her child through the medium of the "ovulum." From the analogy of the spermatic infection we ought to assume that there is also an ovular infection since both generative cells are in this respect of equal value. Ovular infection would moreover be easy to demonstrate if there were not also a second kind of transmission of the syphilitic poison from mother to child, the occurrence of

which is by numerous instances placed beyond doubt—namely the so-called placental infection. In cases of maternal transmission in which the mother was already syphilitic at the time of the conception, it is therefore not possible to answer the question with certainty whether the embryo became infected ovularly or at a later period by means of the placental circulation. That both possibilities of infection can occasionally occur in the same embryo, as has been assumed, is improbable for the reason that, judging by analogy with the laws applicable to extra-uterine syphilis, an embryo infected already ovularly is immune against further syphilis-infection and cannot therefore any longer be influenced by a fresh addition of syphilitic poison through the medium of the placenta. This does not by any means imply that the syphilis of the mother is not capable by the deteriorated state of nutrition under which the embryo continues its development, to react unfavourably upon the general constitution of the fœtus.

Placental infection.—The passage of syphilitic poison by way of the placenta from mother to child is absolutely established by cases in which both parents were healthy at the period of conception, and in which the mother became infected with syphilis in some way or other during the pregnancy, bringing into the world a syphilitic child. Generally speaking, a placental infection takes place in such cases only if the infection of the mother occurred at the latest in the 7th month of the pregnancy, while if the mother becomes infected later, the child is as a rule born healthy. This placental infection is no settled phenomenon in the sense that all the children whose mothers become infected with syphilis during the first months of the pregnancy must necessarily be born affected with syphilis. They very often escape such infection and it would even appear from observations made by experiments on animals in connection with other infectious diseases that the conveyance of the syphilitic poison from mother to child takes place only where the placenta is morbidly altered in some way.

This is also a reason why many authors feel inclined in cases of syphilitic disease of the mother at the time of con-

ception to assume an ovular infection of the child in the place of a placental infection. For mothers who are already syphilitically diseased before the conception impress as a rule upon their children the stamp of their affection, whereas the passage of the causative agents of syphilis through the placenta, though it can occur, is at any rate rendered difficult. At all events, the child of a mother affected with syphilis at the time of conception is doubly in danger, since, should it by some accident or other escape ovular infection, it is still liable to fall subsequently a prey to the placental infection.

That the embryo procreated by parents, both of whom were affected with syphilis before the conception, is particularly subject to be attacked by hereditary syphilis is clear, considering the triple possibility of infection through the spermatic fluid, the ovulum and the placental circulation, and requires no further explanation.

A transmission of syphilis from hereditary syphilitics to their descendants has not hitherto been demonstrated with certainty.

Immunity of healthy-born children of syphilitic parents.—Similarly, the question how far syphilitic infection of the parents renders those of their children who have escaped hereditary infection immune against syphilis is still the subject of a controversy. That the syphilis of the father, if it is not hereditarily transmitted to the children, does not always protect the latter from infection has been proved by observations in which such children have subsequently become infected. Nor does *Profeta's law* that healthy-born children descending from syphilitic mothers are immune against syphilis, seem to apply in all cases. At least exceptions to it have become known just as exceptions have been observed to *Colles' law*.

Moreover, the immunity where it is present seems to be of limited duration only and to become extinct as a rule during puberty. At least infections with syphilis of such children who had hitherto been regarded as immune have been observed. But hereditarily syphilitic children can also like adult syphilitics become reinfected after a time, as has been proved with

certainly by a few observations, though these are scanty in number.

That the syphilis of the parents can cause in the offspring an immunity which, though not always absolute, is certainly relative, is evidenced by a few facts, as e. g. the observation that syphilis takes on the whole a more favourable course in countries in which it is endemic, whereas, if it is introduced into places which have been formerly free from it, the results at first produced by it are most ravaging. It is further supposed that in the sporadically occurring cases of malignant syphilis, the ascendants have for several generations been quite free from syphilis.

Influence of parental syphilis on the offspring.—The influence of parental syphilis on the offspring manifests itself in different ways according to the duration of the disease in one or both of the parents, according to the sex of the procreator, and according to the treatment carried out.

The more recent the syphilis of the transmitting parent, the more easily and frequently the transmission to the embryo takes place, the more severe the form of the disease produced in the fœtus. It is immaterial whether at the time of conception, phenomena in the transmitting parent are manifest or not. Although in most cases of recent syphilis in the procreator the disease is transmitted to the offspring, it does not so happen in absolutely every instance. The fact is that parents suffering from recent syphilis, even if manifesting symptoms, can generate healthy children; in some instances healthy and infected embryos appear alternately. The length of the period of hereditary transmissibility can be told beforehand with as little certainty as the duration of the infective stage altogether. The further the parental disease is removed from the term of infection, the better are the prospects of the embryo coming healthy into the world. This is perfectly clear, for hereditary transmission is after all nothing but another form of infection.

As a rule the capacity for hereditary transmission becomes extinct in the father sooner than in the mother; the latter is often still capable of transmitting syphilis to the offspring ten years, or even later, from the date of her infection. Whether

it is true that the different attitude of the generative cells which are in man, are constantly shed and renewed, while in woman they are often moulded at a very early age to remain latent in the body until they are discharged and eventually impregnated, —whether this difference explains the process sufficiently as *Lesser* endeavours to show by a very ingenious hypothesis, must for the present be left out of account, especially since *W. Stöckel* has furnished proofs that ova and follicles can continue to be yet formed in the adult woman. Possibly also insufficient anti-syphilitic treatment which many women undergo accounts for the longer duration of the maternal capacity for transmitting the disease.

Influence of treatment on the hereditary transmission.—Treatment, and particularly mercurial treatment, plays a very important part in the question of hereditary transmission. The more thoroughly a syphilitic is treated, the earlier his body is detoxicated, the sooner he loses the capacity of transmitting the disease to the offspring. It is a well-known and often-observed fact that parents, who for years have brought forth one syphilitic child after another, suddenly commence after a radical mercurial treatment to generate perfectly healthy children, and that as soon as the influence of the mercury has gone, syphilitic children are again born to them.

It has, therefore, become an established custom, as it were, to mercurialise ex-syphilitic candidates for marriage once more shortly before the wedding, in order to avert the danger of transmission to the offspring, even though the risk of direct transmission should have disappeared for some time. It is similarly advisable in families in which syphilitic children are born, to institute a fresh mercurial treatment of the responsible partner, and to persevere with the same so long as the parental disease makes itself apparent in any way in the offspring. If there is a suspicion that both parents are accountable for the syphilis of the children, treatment must be extended to both of them. Existing pregnancies offer no contra-indication in this connection.

According to the intensity of the parental syphilis, the

result is, to begin with, miscarriages; then follow premature births of non-viable embryos, frequently also of dead full-term children, and later on children are born who show already at birth or a few weeks afterwards, the well-marked combination of symptoms of hereditary syphilis; gradually come apparently healthy children which are, however, feeble and predisposed to constitutional diseases, and finally healthy ones. This is a picture furnished by many syphilitic marriages. There are, of course, exceptions to this sketch. After the birth of living syphilitic children miscarriages may occur once more, and it is also possible, as already mentioned, for births of healthy children to alternate with those of syphilitic ones. This also depends entirely upon the treatment which the syphilitic parents, or the one affected, have undergone for the avoidance of these unfortunate accidents.

Miscarriages.—The miscarriages which occur up to the 5th month, do not, generally speaking, present any symptoms characteristic of syphilis. It is not established with certainty what causes the premature death of the embryo. Morbid changes in the maternal placenta and atheromatous inflammations of the umbilical vessels are named as the principal causes.

Premature labour.—Embryos expelled prematurely after the 5th or 6th month of the pregnancy, manifest already to a great extent the changes characteristic of inherited syphilis especially those in the long bones which have been described by *Wegener* as osteo-chondritis of the epiphyses and which may go as far as total separation of the epiphyses. In extreme cases these changes are associated with articular and peri-articular abscesses and extensive proliferations of the medulla. Such embryos also show already enlargements of the liver and of other organs through interstitial proliferations, further the so-called pneumonia alba which presents gummatous formations as well as diffuse infiltration and blood-vascular alterations. Cutaneous phenomena are frequently as yet absent in these cases.

Labour at term.—The skin symptoms are, however, quite a prominent feature in full-term children and they exhibit on the whole the same character as in syphilis acquired outside

the uterus. On account of the bad state of nutrition of the newly-born infants the skin is often found to be flabby and wrinkled especially in the face, a circumstance which gives them the appearance of extremely aged individuals. The principal types of these congenital syphilitic eruptions are of a maculous, papulous and bullous nature; frequently gummata appear very early, sometimes yet intermixed with the eruptions of the earlier period. Peculiarly characteristic is the pemphigus syphiliticus neonatorum which arises through the transformation of papulous into pustulous efflorescences and through the confluence of the latter.

The nasal organ is the seat of catarrhs (coryza) and of stenoses, the latter being produced by the drying of the secretion and giving rise to the peculiar snuffling of these patients.

The diffuse syphilitic infiltration of the skin, described by *R. Mayr*, which confers to the face especially a peculiar stiffness is regarded as a sign of severe infection and so is the tendency to cutaneous hæmorrhages and to hæmorrhages of the internal organs.

On the mucous membranes, too, there appear already very early papulous efflorescences which ulcerate particularly at the passage of the mucous membrane into healthy skin producing often at the lips and at the anus fissures and excoriations. Swollen lymphatic glands are frequently observed, though not to the same extent as in adults. Very many of these children die soon after they are born, in spite of good nursing and treatment, frequently under symptoms of pyrexia from gastrointestinal catarrhs or marasmus. In others the very feeble bodies become the seat of purulent and gangrenous affections of the skin such as are usually seen to attack all cachectic children. A number of hereditarily-syphilitic children, though they overcome these dangers, retain nevertheless for a shorter or longer time, and often for the whole of their lives, a diminished resistibility against external injurious influences. The course of congenital syphilis is not on the whole materially different from that of the acquired form. In some cases the symptoms visible at birth or shortly afterwards remain the only ones during the whole life. In others secondary relapses

of the most variable kind are observed. In a number of these children tertiary phenomena of the skin, but especially also of the internal organs such as the nerves and bones, appear sooner or later; but it is hardly necessary to describe these in detail as they differ but little from the late symptoms of non-congenital syphilis.

As a pathognomonic, though not an absolutely certain sign of early congenital syphilis, is regarded the so-called triad of *Hutchinson* which includes the keratitis parenchymatosa or the corneal spots resulting from it, the labyrinthine deafness and the peculiar crescent-like erosion of the upper incisor teeth. Due to the same cause are further the choroiditis areolaris, the linear cicatrices radiating round the mouth, and finally the sword-shaped curvature of the tibia.

Late inherited syphilis.—The occurrence of a so-called late hereditary syphilis by which we understand the appearance of tertiary phenomena during puberty, or even later still, without any preceding secondary symptoms, is not yet demonstrated with certainty. The secondary complex of symptoms has in such individuals either run its course during their intra-uterine life or been overlooked at their birth and subsequently as well. Some of these patients may, perhaps, have become infected after their intra-uterine life the disease passing unrecognised and untreated.

In some of the cases para-syphilitic and meta-syphilitic phenomena are said to develop on the basis of inherited syphilis, phenomena which are in themselves neither infectious nor in any way influenced by anti-syphilitic treatment. Among such diseases are included rickets, scrofula, hydrocephalus which is frequently followed by idiocy, epilepsy and other nervous diseases of childhood, as well as the different dystrophies. Whether the above-mentioned connection exists in all these cases, it is as difficult to say with certainty as it is with regard to the para-syphilis of adults.

Birth of syphilitic children and their influence on the family life.—The birth of a syphilitic child being one of the most unfortunate events of married life is calculated to give rise to complications of different kinds. The occurrence

of several abortions alone is sufficient to attract the attention of friends and relatives, and they begin to suspect the husband who is in by far the greatest number of cases the party that brings syphilis into the married state, particularly as a suspicion of pre-connubial indiscretions is in such cases very often entertained even if there is no justification for it. But the birth of dead or living syphilitic children creates perturbations which are capable of causing great embarrassment to the diseased parent as well as to the medical attendant. Apart from the moral anguish experienced by the parent who feels guilty of the birth of a diseased child, an occurrence recalling in a cruel manner an illness long since considered, cured and done with, apart from the fear that the well-kept secret will leak out after all, there is the unpleasant serious duty which confronts the physician in attendance. He must protect the healthy inmates from infection by the diseased infant and institute the proper treatment, without revealing the secret of the syphilitic parent.

It is, of course, impossible to lay down any definite rules for the guidance of the physician in such cases as each individual case must be decided by its peculiar circumstances. The necessary tact will always find a way out of the difficulty. The requisite precautions must, however, be taken in every instance so as to prevent the infection of others.

The nutrition of syphilitic infants.—It is in the first place essential that the syphilitic child should not be suckled by a wet-nurse unless, perhaps, she, too, be syphilitic. The infant must be fed either by the mother who is, as already pointed out above, nearly always immune no matter whether she is herself syphilitic or whether she has only harboured in her uterus a fœtus which has derived the syphilis from the father, or it must be brought up artificially. This applies also to healthy-born children of manifestly syphilitic parents, because sometimes the syphilis of new-born children does not make its appearance before 2 or 3 months after their birth and an infection of the wet-nurse may then take place. The suitable nutrition of the diseased suckling must be accompanied by appropriate treatment and not infrequently one is happy

to see such children overcome successfully all the dangers of their parental heritage.

Syphilitic infection of the child during labour.

—An infection of the child seldom takes place during the labour act, and such an occurrence is, of course, possible only if the mother suffers at the time from manifest syphilis of the genital organs. Such an infection is only possible if the mother became infected after the 6th month of pregnancy. This mode of syphilitic infection of the suckling may, however, not manifest itself until several weeks after birth.

Dangers for the obstetrician and the midwife.—The labour act of women suffering from specific genital symptoms is also a source of grave danger to the attending medical man and to the midwife, who not infrequently become syphilitically infected on such occasions.

It should therefore be a legal obligation for parents who are aware of their syphilitic condition, to warn all those who take part at the confinement, that is the doctor, midwife and nurse, and to enjoin them to protect themselves against infection. Since midwives are just as much under an obligation to guard the secrets of their clients as medical men, there could be no fear of any unpleasantness arising in consequence.

Syphilis and divorce.—Whether according to the German Civil Code syphilis in one of the spouses constitutes a ground for the dissolution of the marriage—this question has been discussed by *Heller* in an elaborate article (Berl. klin. Woch. 1901, No. 46). From his statement it appears that syphilis as such is no ground for divorce as it cannot be included among the absolute and relative divorce-grounds dealt with by §§ 1564-1587. On the other hand syphilis may be used as an argument for the nullification of the marriage-contract.

Such nullification of the marriage-contract may be demanded, according to *Hellwig*¹ (Die civilrechtliche Bedeutung der Geschlechtskrankheiten, Zeitschrift fuer Bekaempfung der Geschlechtskr. 1903, No. 1), in the first place on the

¹According to *Hellwig* it becomes however a ground for divorce: 1. if the disease has been acquired through moral guilt, e. g. adultery. 2. if insanity or injury to health or at least danger to health is a concomitant factor.

ground of error, when the following motives come into consideration: 1. The error of one spouse with respect to such qualities in the other spouse as would have deterred him or her from contracting the marriage, had he or she been aware of the real condition of affairs and properly understood the essence of married life. (§ 1333.) 2. The premeditated deception of the husband or wife by falsehoods which induced him or her to contract the marriage and the knowledge of which with a proper understanding of the main essence of marriage would have deterred him or her from contracting it.

Hellwig thinks that in cases of recent syphilis, especially if the medical opinion is to the effect that relapses are still likely to occur, the courts ought to protect the woman, who believed she was marrying a healthy man, from the dangers constantly threatening her, by granting her petition that the marriage be annulled. The decision of the court would, however, have to be different where the husband who had had himself treated properly, has not shown any symptoms for a sufficient number of years, so that, although the recrudescence of the disease cannot be considered as impossible, the probability is that a complete cure has been accomplished. In such cases the petition for the nullification of the marriage on account of error would have to be dismissed. The possibility that the probable duration of life is shorter in individuals who have formerly had syphilis, owing to their tendency to acquire other diseases, does not according to *Hellwig* possess any bearing on the point.

A premeditated deception takes place where the intended husband or wife answers knowingly and untruthfully in the negative the question addressed to him or her, whether he or she is suffering from a sexual disease. It cannot, however, be said that there is deception in the sense of § 1334 where the candidate for marriage is silent on the subject of a sexual disease from which he has formerly suffered and which he now believes to be completely cured.

In any case the candidate for marriage can according to *Hellwig* make provision against the nullification of the marriage-contract by assuring himself that the other contracting

party or her legal representative is under no misapprehension as to his former sexual disease. He must under no circumstances be guilty of any misrepresentations made to either of them.

The legal consequences of the dissolution or nullification of the marriage consist in the obligation devolving upon the guilty party to maintain suitably the innocent party in conformity with §§ 1578-1582. The spouse whose health has suffered through the infection has, besides, the right to claim damages from the other spouse, if the transmission of the disease took place in consequence of criminal negligence or by premeditation.¹

The syphilitic infection is regarded by *von Liszt* (*Der strafr. Schutz geg. Gesundheitsgefahrdung durch Geschlechtskranke*, *Zeitschr. fuer Bekaempf. der Geschlechtskrankheiten*, Vol. I., 1903) objectively as physical injury and as such subject to § 223 sq. *Liszt* proposes however the introduction of a special penal clause with the following wording: "Whosoever practises sexual intercourse while knowingly suffering from a sexual disease, is liable to imprisonment for a period not exceeding two years and, in addition, to the loss of his civic rights.—Where the action has taken place between husband and wife, a prosecution can be instituted on an ex-parte application only."

¹Translator's note: The English divorce-laws do not know of any other grounds for divorce than adultery of the wife or adultery with cruelty or desertion on the part of the husband, but judicial separation is granted for cruelty only and sexual disease is under certain circumstances regarded in this light. A decree of nullity of marriage would probably not be granted on account of sexual disease, unless accompanied by physical incapacity to perform sexual intercourse, but the defect must have been existent at the time of marriage and it must be of an incurable character.—Broadly speaking this may be said with regard to the United States as well, except that where cruelty alone is regarded as a ground for divorce sexual infection is probably often included under this head.

XVI

Diseases of the Skin in Relation to Marriage

XVI

DISEASES OF THE SKIN IN RELATION TO MARRIAGE

By **R. Ledermann, M.D.** (Berlin)

The relations of diseases of the skin to the processes connected with the married state possess in so far a special importance, as they must be judged in addition to the medical and sanitary points of view also from cosmetic standpoints. Many skin affections, especially if they are situated in uncovered regions of the body, appear to the lay public not only as diseases but also as physical defects, and can in this way influence unfavourably a projected marriage. In such cases the physician is often able to intervene beneficially and to remove the obstacle by a cure of the existing evil if his advice is sought at a sufficiently early date. On the other hand it is possible for some skin-diseases which are in the eyes of the layman nothing but harmless complaints, to impress the physician as premonitory signs or as symptoms of severe affections, and to induce him to look upon a contemplated marriage as not expedient, out of regard for the probable fate of the patient himself or in the interest of his eventual family. We have only to think of pemphigus, the first bullæ of which often indicate to the experienced eye the unfavourable course of the disease. The opinion of the physician may therefore in cases of morbid states of the skin be of the utmost value to the parties contemplating matrimony. In regard to skin-diseases, however, which make their appearance in individuals already married the question is how they affect the course of the marriage, and also how the married state acts upon the course of these diseases. In infectious cases of dermatosis there is further to be considered the eventual protection of the healthy people living in proximity to the patient—above all that of the other

spouse who is most subject to the injurious contact, and that of the children.

On account of our ignorance of the etiological factors of many skin-diseases we are still without a uniform classification. For this reason I have refrained from a division of the diseases to be dealt with in this article, according to some definite standpoint, so that after taking first the infectious diseases of the skin, I shall, on the whole, though not absolutely, follow the arrangement adopted by Neisser in his text-book (*Krankheiten der Haut*, 1901. *Handbuch der prakt. Medizin.*).

1. *Leprosy.*

Leprosy, which outside of Europe is still very prevalent, for instance in India, China, Mexico and the Sandwich Islands, is seen in Europe in isolated places only. Norway, Spain, Bosnia and South Italy possess yet solitary, to a great extent disappearing centres. Only in Russia a further spread of the disease has within the last few decades been observed to proceed from Livonia towards the interior of the country, so that a certain amount of danger was threatening Germany from that quarter, a danger which may be said to have been averted by the precautions taken by the government.

Owing to the discovery by *Armauer Hansen*¹ of the lepra bacillus, a discovery confirmed by *Neisser*² and now universally admitted, the contagious character of the disease, which a few investigators still deny, is undoubtedly established, so that the question of the relationship between leprosy and marriage has acquired quite an especial importance. As to the manner of the transmission nothing definite is known. Particularly with regard to the place by which the virus enters into the body we are absolutely in the dark. That bacteria penetrating through an injury in the skin can lead to a development of the whole clinical picture of the disease has been proved by an incontro-

¹*Armauer Hansen*, *Bacillus Leprae*, *Virch. Arch.* Vol. LXXIX.

²*A. Neisser*, *Zur Aetiol. der Lepra*. *Bresl. ärztl. Zeitschr.* 1879, No. 20 u. 21. *Lepra*, *Ziemssens Handb. d. spec. Path. u. Ther.* Vol. XIX.

vertible inoculation-experiment which *Arning* made on an inhabitant of the Sandwich Islands. But it is just possible that this form of the conveyance of the disease is one out of the many which actually do occur. Infections through the inhalation of the virus by the nose belong as much to the range of possibilities as does the introduction of the poison through the medium of the digestive tract, so that the fish-theory still advocated very vigorously by *Hutchinson*¹ acquires according to our modern ideas a somewhat greater justification since we can very well imagine fish and other articles of food as intermediate carriers of bacteria. The fact is, and there are numerous observations at our disposal to prove it, that leprosy can be transmitted from person to person, and those patients particularly seem to be a source of danger to those coming in contact with them, who have suppurating nodules on the skin or who, being affected with the pulmonary form, cough out large masses of bacilli which get scattered among the people in the immediate neighbourhood. Less dangerous, on the other hand, are those patients who suffer from the so-called *lepra anæsthetica* in whom the bacilli are concealed in the nerve-sheaths or nerve-fibres so that they can reach the outer world with great difficulty only. That, nevertheless, fewer people are as a matter of fact infected in leprous centres than one would expect, that notwithstanding close cohabitation with leprous individuals extending over many years it very often happens that husbands, wives and other relatives, even if occupying the same beds as the patients, remain healthy, is not by any means evidence against the contagiousness of the disease. It rather tends to prove that a large number of people are happily immune against leprosy, that an especial predisposition to the receptiveness of the poison must be present, a predisposition, however, which cannot unfortunately be recognised by visible means. That climatic influences and the condition of the soil are also not without significance to the development of leprous affections is very probable and not denied

¹*J. Hutchinson*, Notes on acquired leprosy as observed in England. Brit. med. Journ. 1899. *J. Hutchinson*, Report on leprosy in South Africa, *Lepra Bibliothek intern.* 1902. Vol. II.

by even the fiercest supporters of the contagion-theory. But this influence can always be so interpreted that the telluric conditions can create or increase the predisposition of the organism to the reception of the bacteria.

Propagation of leprosy through marriages.—

Since the treatment of the disease has hitherto remained quite hopeless, the sole possibility of preventing a further dissemination of leprosy lies in the strictest separation of the diseased from the healthy. Patients in whom leprosy has been established must therefore be dissuaded most emphatically from getting married, as the danger of the healthy members of the future family being attacked by the disease is always present, although in point of fact many statistics show that such danger is very small. Thus f. i. the Indian commission for the investigation of leprosy could demonstrate a transmission of the disease from one married partner to the other in only 2.5% of the cases, and only where the marriages have lasted more than 5 years did the figure go up to 5%. *Münch*¹ gives the percentage as 11%; *Sand*² saw in 478 marriages between leprosy and non-leprosy individuals only 15 cases where husband and wife were affected; out of these the husband transmitted the infection in 5 cases, and the wife in 10, so that in 97% of the cases no demonstrable infection took place. *Blaschko*³ found among 25 patients in the Memel district 12 married persons, but in not a single case could he demonstrate a transmission to the healthy spouse, whereas in 3 cases the leprosy had been transmitted to the offspring. If the transmission from husband to wife, or vice-versâ, seems therefore to take place rarely, it is nevertheless possible, and this possibility alone suffices to make the adoption of the above standpoint necessary.

Prohibition of marriage.—Whether any practical results could be obtained by legal enactments, f. i. a prohibition of marriages between leprosy and healthy persons, as demanded by *Lovell*, *Poup*, *de Valencé* and others, would appear from the experiences collected so far to be rather doubt-

¹*Münch*, Leprosy in South Russia. Kiew 1889. (Russian.)

²*Sand*, Beobacht. über Lepra (Lepra vol. III. Fasc. 1, 1903).

³*Blaschko*, Die Lepra im Kreise Memel. 1897.

ful. An attempt in that direction which was made according to *Münch*¹ in a small Russian district proved futile. At the instigation of the Caucasian medical committee, all the priests of the Terek district were enjoined to prohibit the marriages of all those in whose ancestors leprosy had demonstrably been present, even though the grandparents exclusively had been affected. The forging of certificates, irregular marriages and other similar evils became so rampant that the edict prohibiting the marriages had to be revoked.

Inherited leprosy.—The question of the hereditary transmissibility of leprosy cannot be answered definitely either in an affirmative or a negative manner. As the generative apparatus is often severely affected though the sexual desire remains intact for some time, we cannot theoretically and by comparison with other infectious diseases, f. i. syphilis, dismiss the possibility altogether. And besides there are also a few positive data in favour of this view which is advocated principally by *Daniellsen* and *Boeck*. In practice, however, this point plays a smaller rôle than the danger of infection from diseased parents, brothers or sisters. On this account too, the advice is justified exhorting leprous individuals not to marry; for, supposing even that hereditary transmission does not take place in the majority of the cases, the children though born healthy are nevertheless subject to the danger of infection where one or both of the parents are diseased, so long as they remain under the same roof or in contact with them.

Isolation of the patients.—If one of the members of a family is attacked by leprosy, a strict separation of the patient from those around him ought to take place. Where the patient's position allows him to carry out that separation in his own house, and if he is sensible enough to conform himself to the instructions on the point laid down by his medical adviser and to submit to the recommendations of the individuals entrusted with the task of nursing him, the danger of infection incurred by those living under the same roof is

¹The history of leprosy in the Terek region. Kiew 1894. (Russian.) See *A. v. Bergmann*, *Die Lepra*. Stuttgart, 1897.

so slight that there is no necessity for precautionary arrangements on the part of the authorities. But where these guarantees are wanting, the State has not only a right, but it is its duty, to protect the imperilled family and the entire surroundings of the patient in a wider sense against the risk of contagion, by a compulsory removal of the diseased person to a special institution for leprous individuals, and thus to avert the spread of leprosy in the whole of the threatened locality. If leprosy attacks either the husband or the wife at a time when the children are still young the latter should be taken away from the house as soon as possible and placed under conditions which preclude the possibility of an infection. There would even be no exaggeration in the demand that such children be reared and observed in some public institution for a number of years, since, considering the long incubation-period of the disease, it is possible for them to harbour its virus for many years before any symptoms make themselves manifest. Above everything it is necessary, if one of the children of an otherwise healthy family becomes attacked, to provide for its strict separation from its brothers and sisters, as the disease is transmitted far more easily between brothers and sisters than between husband and wife. Maybe the reason is to be looked for in the circumstance, as *Blaschko* points out in his remarks on the Memel epidemic, that brothers and sisters being consanguineously related, are far more often equally constituted and predisposed to the same diseases than husbands and wives.

Duty of the physician in the presence of leprosy.—From the above observations it follows that the duty of the physician in the presence of a leprous candidate for marriage is to explain in the frankest possible manner the danger threatening the future family. Where leprosy has become manifest in one of the members of a family, a voluntary or, if necessary, compulsory isolation of the patient, affords the best protection against this terrible disease which is absolutely unamenable to therapeutic treatment.

2. Tuberculosis of the skin.

As the acute forms of skin-tuberculosis constitute almost exclusively only a part-symptom of a tuberculous disease situated in some other part of the body, we shall consider here first the chronic forms.

Among these is included in the first place lupus, the tuberculous nature of which is now universally recognised, and the tuberculosis cutis verrucosa; secondly, scrophuloderma and the tuberculosis cutis fungosa of *Riehl*, which is closely allied to it, and thirdly, lichen scrophulosorum.

Lupus vulgaris.—Lupus vulgaris is a disease with a very chronic course which begins as a rule during childhood but which may make its appearance at any time of life. A primary commencement at a marriageable age or in married persons is therefore at any rate rare. As a family-disease lupus does not play a special part, since no cases of hereditary affection or direct contagion from the lupoid focus to the skin of a healthy individual have become known. Nevertheless the infections with lupus of which we do know have been caused by a transmission of tuberculous material which came not from a skin affected with lupus but from some other tuberculous focus. In brothers and sisters lupus is seen only exceptionally; but very often children with lupus are descended from tuberculous individuals who have not themselves suffered from lupus (*Leloir*,¹ *Raudnitz*²).

It may therefore be said that the tuberculosis of one or both parents imparts to their children a certain predisposition for the reception of tubercle bacilli in the skin, and as a matter of fact tuberculosis in the ascendants has been established in half the number of all the cases of lupus. On the other hand it is not proved whether patients affected with primary tuberculosis of the internal organs are particularly predisposed to lupus. More frequently it happens that patients with lupus

¹*Leloir*, Traité pratique theor. et therap. de la scrophulo-tub. de la peau et des muqueuses adjac. Paris 1892.

²*Raudnitz*, Zur Aetiologie des Lupus vulgaris, Arch. f. Dermatol. 1892.

are attacked later by other tuberculous diseases, hence the saying of *Besnier*: Les lupiques deviennent fréquemment tuberculeux. (Lupus-patients frequently become tuberculous.)

It is known, however, that scrofula¹ plays a considerable rôle in the history of sufferers from lupus, seeing that a scrofulous condition offers in all respects a suitable soil for the growth and development of the most various forms of cutaneous tuberculosis.

Origin of lupus.—For the mode of origin of lupus we have 3 explanations which do not exclude one another and each of which is now and then admissible. The first, regarded by *Baumgarten*² as the only mode of infection, is the infection by metastases through the intermediary of the blood-vascular and lymphatic circulations, and is known also as hæmatogenic infection. More frequent is the infection per contiguitatem which consists of a direct contagion from tuberculous processes in glands, joints and bones to the surface of the skin. It is also possible for tuberculous skin-affections, f. i. scrophuloderma, to become occasionally the starting-point of a regional lupoid infection.

These two modes of origin of lupus which may also be described as endogenous are not of any particular consequence to the question of their relationship to the married state, as they are only secondary manifestations of a tuberculosis situated in some other portion of the organism, and as their prognosis depends in the first instance from the condition of the primary seat of the tuberculous virus.

Far more important from our present point of view is the third mode of infection through inoculation, which although it has not yet been demonstrated by experiments on animals, is supported by so many clinical facts and observations that there can hardly be any doubt as to its occurrence. And seeing that the intimate companionship of married life offers the most favourable opportunities for the transmission of infectious diseases of all kinds, we will devote a little more attention to this mode of origin of lupus.

¹See Chapter VIII. *Senator's* article, p. 290.

²Lehrb. der pathol. Mycologie. 1890.

Consent to marriage.—The question whether a person affected with lupus may marry can only be answered in each individual case, as lupus is a disease which may be cured, in rare cases spontaneously, and more often by appropriate treatment. Permanent cures are doubtless known, although they are not exactly very frequent.

So the case may arise of a former lupus-patient who is still reminded of his old disease by, perhaps, nothing more than a slightly disfiguring scar and who wishes to get married, addressing in all conscience to his doctor the query whether the disease is really cured and whether he may take the contemplated step without possible or probable injury to his own person, to that of his future partner or his eventual progeny. What should be the attitude of the doctor in such a case?—If the case is that of an individual in whom a most careful examination reveals no signs whatever of a tuberculous or any other disease, if the period of the acute stage of the disease has long since passed, if the patient has neither tuberculous habit of body nor a family history of tuberculosis and if there is no evidence of scrofula, there is the less need to withhold the consent to the contemplated marriage, as experience teaches that the regular mode of life and the better conditions of nutrition resulting from the married state are productive of better health and often of a higher life-duration than the unmarried state. Such a patient must be judged somewhat similarly to an individual who has had formerly catarrh of the apex,¹ or like one who was formerly scrofulous and in whom the scars left behind in the glands are the only signs of the old disease, or like persons with other forms of a pre-existent and now healed tuberculous affection. Of importance is certainly the proof that the lupus-scar does not really contain any more diseased tissue, that there are no more nodules slumbering deeper down, or that a lupus sclerosus in which the tuberculosis is seated in the deeper layers of the cutis and which may extend sometimes as far as the subcutaneous connective tissue, is not simulating a cicatrised lupus-scar. Though an experienced eye is generally in a position

¹See Kaminer's article, p. 390.

to remove many a doubt in this connection, it is nevertheless necessary to have recourse to other aids as well in order to make sure of these very important points. Occasionally it is possible by means of *Liebreich-Unna's* glass-pressure-method and the artificial anæmia thus produced, to discover yet nodules at the border of such a lupus-scar which would otherwise, in the normally-looking, or, as it frequently is at the border, hyperæmic cutaneous tissue, have escaped even the most scrupulous observation.

More reliable results than by these methods can be obtained by the employment of tuberculin. *Neisser*,¹ at least, believes that with regard to skin-affections, one can safely lay down the rule that all those affections which react to tuberculin in a typical manner, belong to tuberculosis, and that affections which manifest no reaction, are of a non-tuberculous nature.

The tuberculin reaction shows therefore, according to *Neisser's* experiences, how far down lupus deposits have already proliferated into the apparently still healthy surrounding tissue. In skin-diseases tuberculin can thus sometimes furnish valuable information with regard to seemingly cured cases of lupus and in this way be of assistance in the formation of an opinion as to the permissibility of a marriage.² If the scar contains yet hidden remains of lupus the candidate for marriage must be judged according to the same principles as would apply to any other sufferer from lupus, a point to which we shall have occasion to refer again later on.

As lupus-scars are capable of leading by inversion of the eyelids, by cicatricial contractions of the mouth or of the nasal opening, or by the creation of flexures which impede the free use of the organs concerned, to all kinds of deformities, the assistance of the surgeon is occasionally invoked by candidates for marriage for cosmetic reasons. Occasionally by injections of thiosinamin, but more often by the knife of the skilful operator, it is possible to remove existent functional disturbances or æsthetic objections and thus to eliminate what obstacles there are to the consummation of a contemplated marriage.

¹Die tubercul. Hauterkr. Deutsche Klin. 1902.

²See *Kamner*, p. 389.

We may therefore conclude that where the lupus is completely cured, where its consequential results have been removed, and where the general health of the candidate for marriage is otherwise intact, there is no occasion for the physician to offer any objection against the contraction of a marriage.

The matter is of course different if there are still manifest lupus deposits existing. The size and number of the diseased spots, their local situation, the nature of the disturbance produced will in each individual case influence the decision of the physician as to whether the marriage of a lupous individual with a healthy one is from a medical point of view permissible. The doctor will have to ask himself first of all whether a lupus-patient can on account of his infectiveness which may in his particular case be especially great prove a source of danger to his future wife and family. We have already mentioned that the transmission of infections from lupus-deposits to healthy persons has not hitherto become known, that in the so-called inoculation-lupus the contagion has always consisted of a conveyance of tuberculous material coming from other parts to the healthy skin; and although we cannot, seeing that the nodules have been proved to contain bacilli, straight away dismiss the theoretical possibility that such an infection, especially from ulcerated lupus-centres may occur, the risk of infection is nevertheless as an obstacle to marriage of far less importance than other dangerous factors which play in connection with the question interesting us here an unequally greater rôle.

In cases of rather extensive and acute lupus in which the disease is spread over large surfaces of skin, or where mucous membranes are affected, or, finally, where more or less severe destruction of the skin has produced prominent disfigurements, the doctor will only very rarely be called upon for an opinion relating to marriage. Besides, most lupous patients, the great majority of whom belong to the poorer classes, are not in such favourable pecuniary circumstances as to be in a position to establish a household. And though many of them are perfectly able to work, they cannot, as *Neisser* has pointed out, find anybody to give them employment and they are shunned by everybody on account of their repulsive appearance. Should how-

ever the question of marriageableness from a medical point of view happen to arise in such a case nevertheless, the doctor would have no alternative but to decide the same in a negative sense. A lupous patient whose illness has, perhaps, in spite of medical treatment assumed the proportions indicated above, has only very rarely a chance of being cured of the same permanently. On the contrary, he is always threatened by a number of dangers which medical skill cannot possibly avert. Such patients are always running the risk of being attacked by other forms of tuberculosis and in point of fact the greatest number of lupus-patients succumb finally to pulmonary tuberculosis. It has even happened occasionally that surgical measures, such as the scraping of lupoid deposits, have caused bacilli to penetrate into the opened venous circulation producing in this way an acute miliary tuberculosis leading to a fatal issue. The diseased skin of a lupus-patient forms also very often the starting-point of many other disturbances; it facilitates the settlement of staphylococci and streptococci. Particularly often erysipelas finds here a suitable medium for its development and a soil favouring its frequent recurrence which may cause elephantiasis and chronic induration of the cutaneous connective-tissue. Finally, malignant tumours such as carcinomata and angio-sarcomata may form on such lupoid deposits. All these possibilities are sufficient reasons to impose upon the physician the duty to refuse his consent to the marriage of individuals with severe lupus.

Patients with small circumscribed lupoid deposits offer, if they are otherwise free from tuberculosis far less occasion for apprehension, especially if the diseased foci have existed already for a long time and if they have grown only very slowly or come to a standstill in their development altogether. For all that, they are, even though the seat of the disease be confined to a small portion of the skin only, liable to all the eventualities just discussed, as we know that every small focus can suddenly become the starting-point of a fresh development of the disease. To a lupus-patient thus situated we must therefore proffer the advice if he desires to get married, to wait first until the lupus deposits have been cured. Unfortunately in many cases—if

we do not succeed by a radical extirpation in achieving a rapid cure—the healing process is such a slow and tedious one that by this fact alone the contemplated marriage often becomes illusory. This applies especially to the lupus of mucous membranes which can only with very great difficulty be brought to a favourable issue. But when the cure is achieved, and if after complete cicatrisation of the respective places the tuberculin-test also does not reveal any signs of an internal or external tuberculosis, we can without injury to our professional responsibility consent to the projected marriage.

Course of lupus during the married state.

—There is little to add to what has already been said respecting the course of lupus during the married state and the influence of married life as such upon lupus. Married people are only rarely attacked by lupus, since the disease appears most frequently during childhood. Nevertheless, as we have already seen fresh cases do occur at later periods of life as well. The danger of the disease being transferred from one married partner to the other is, excepting where the seat of the affection lies in the region of the genital organs, a very remote one notwithstanding the close cohabitation, and is very likely present only if the patient suffers also from other forms of tuberculosis from which an infection may possibly arise. The probability is also small that the disease can be transmitted hereditarily or through infection to the offspring. It is of course possible for a predisposition to subsequent tuberculous diseases to be transmitted by one of the parents who suffers from tuberculosis in some shape or other. (Compare *Kaminer's* article in this work.) This danger is however greater with regard to all the other tuberculous diseases of the parents than with regard to lupus, provided, again, that the latter represents the only form of the parental tuberculosis. That married life should under normal circumstances act injuriously upon a case of lupus is hardly to be expected, especially as lupus-patients enjoy as a rule for a long period of their lives otherwise unexceptionable health. But, of course, intercurrent and debilitating diseases may influence lupus unfavourably as they can every form of tuberculosis. In this connection we must mention especially,

severe labours and puerperal diseases, whereas normal pregnancies and confinements are generally without any ill-effect on the course and development of lupus.

The offspring.—As regards, finally, the offspring of lupus-patients, experience teaches that such children are as a rule born healthy and that they can remain healthy for the whole of their lives. In view, however, of the possibility that they may possess a special predisposition to tuberculous diseases, they should be freed as quickly as possible of all such conditions as favour the origin of inoculation-lupus, for instance, itching skin-eruptions and catarrhs of mucous membranes which become so often the open door for the entrance of tubercle bacilli.

On the subject of the other forms of chronic tuberculosis of the skin and their relationship to the married state there is no need to dwell at very great length, since many of the points arising with regard to them have already been considered in connection with lupus.

Tuberculosis verrucosa cutis.—The tuberculosis verrucosa cutis (*Riehl-Paltauf*) which is a form of lupus or at any rate closely allied to it, represents a real kind of inoculation-tuberculosis and is observed especially in people who have to handle animal, and therefore often tuberculous offal. As it attacks for the most part healthy individuals who do not suffer from any other form of tuberculosis, and as the affection can be removed by surgical means, the tendency to spread further being also small, no other necessity arises for the physician when approached by a candidate for marriage than to relieve the latter of his complaint first. Or, if the patient refuses on account of the slight discomfort which the affection causes him to submit to a surgical operation his attention must be called to the tuberculous nature of the tumour and to the dangers which may possibly arise from it. If the affection makes its appearance in a married individual the sole duty of the physician is to institute the necessary appropriate treatment.

Scrophuloderma.—Less favourable, though also not absolutely unfavourable, are the conditions in another form

of chronic tuberculosis of the skin, the so-called scrophuloderma (gumma scrophulosum, *Neisser*; colliquative tuberculosis of the skin, *Jadassohn*) in which is also included the affection described by *Riehl* as tuberculosis fungosa (fungus cutis). Here there develop either primarily in the sub-cutaneous connective tissue or secondarily from scrofulous glands and more rarely from bony substance nodules which become fused with the skin, and which when they finally burst, lead to more or less extensive ulcerations with undermined borders. As already mentioned, lupous centres may, in association, arise in the neighbourhood of these ulcerations as may also, by means of the lymph-vascular circulation, fresh tuberculous deposits—representing in any case a dissemination of the tuberculous virus. The granting of the consent to the marriage of a patient suffering from scrophuloderma depends therefore entirely upon the manner of its commencement and the form of its distribution. In the primary occurrence the prospects of a cure, which, by the bye, may in rare cases happen spontaneously as well, are much brighter than in the secondary forms in which the cutaneous affection is only a part-symptom of some other tuberculosis. A patient with primary scrophuloderma will in the first instance have to be recommended to obtain relief from his affection by surgical means before taking the contemplated step. In the case of scrophuloderma of a secondary character the possibility of eventually consenting to the marriage must depend upon whether all the centres of the disease can be annihilated, and this situation must be explained to the patient. Seeing that such success will not often be obtained, the better course in the majority of cases is for the physician to dissuade from the contemplated marriage straight away. In view of the tuberculous character of the scrophuloderma-ulcer it is also necessary, if married persons get attacked by the disease, to recommend them to see that they get rid of the complaint as quickly as possible considering that they run the risk of conveying it to others. At any rate the precaution must be taken by carefully bandaging the ulcer to prevent the spread of the tubercle bacilli in other parts of the patient's body or among his healthy cohabitants. Scrophuloderma during childhood seldom occurs

primarily, but is nearly always the result of a scrophulo-tuberculous diathesis which must be combated in the first instance. It is therefore necessary in such cases to adopt the principles which apply to the prevention of tuberculosis generally.

Lichen scrophulosorum.—Lichen scrophulosorum, or better called, according to *Neisser's* suggestion, tuberculosis milio-papulosa aggregata is now, since *Jacoby* and *Wolff* have proved the presence of tubercle bacilli in the little nodules, also regarded as a special form of cutaneous tuberculosis. Since the affection occurs almost exclusively in children, and always in consequence of scrophulo-tuberculosis elsewhere, and as it is as a rule curable, it cannot be said to have any bearing on our subject.

The acute forms of skin-tuberculosis, the tuberculosis cutis propria sive miliaris ulcerosa, further the rare acute miliary tuberculosis, can equally be left out of the discussion in this place since, being consequences of an internal tuberculosis which is often already far advanced, they are of decidedly less importance than the causal disease.

Tuberculides.—If we mention yet briefly in this connection that an entire series of skin-affections which are still imperfectly understood in their clinical characters such as folliculitis, acneitis, erythema induratum (*Bazin*), and others, have under the designation of tuberculides been included among the tuberculous dermatoses on the ground that they are not caused by the direct action of the tubercle bacilli but by that of their toxins, we can at the same time point out that as long as these affections are consequential symptoms of a tuberculosis which is either manifestly or latently present in some part of the body, they cannot for themselves claim any significance with respect to the questions interesting us in this work. Their prognosis depends entirely on the state of the primary tuberculosis. If a direct connection with a tuberculosis elsewhere cannot be established, it behoves us to be careful how we interpret such morbid processes which are clinically not yet sharply defined, especially as a quite favourable course of these affections has at times been observed. At any rate the prognosis should on no account be declared as absolutely bad,

influencing thereby injuriously the fate of candidates for marriage erroneously and prematurely, without a most comprehensive observation and without proving the presence in the body of other undoubted tuberculous changes.

3. *Rhinoscleroma.*

Rhinoscleroma, the infectious nature of which has since the discovery of a specific bacillus (*v. Frisch*) received general recognition, is a chronic swelling which occurs in persons of middle age, usually at first on the nose, affecting subsequently very often the mouth and pharynx, the larynx and neighbouring parts, and which may cause by adhesions and infiltrations permanent stenoses of the upper respiratory passages. Although the complaint does not for many years inconvenience the general health, the prognosis is nevertheless unfavourable, as conditions which are dangerous to life may be created through the secondary cicatricial alterations. The disease is absolutely incurable. It is this circumstance which is by far more important to the question of the eventual marriage of a person thus affected, than the danger of infection for others which must a priori be assumed. A transmission of the micro-organisms from one person to another has not become known and inoculation-experiments on animals have with the exception of a single positive one by *Stepanow*¹ proved futile. Endemic occurrence of the disease, too, has only been observed in a few countries such as in the south-west of Russia, the eastern provinces of Austria and in Central America, without there being any occasion to assume a transmission from person to person. Neither are there any satisfactory observations to speak for an hereditary predisposition. In only one case reported by *Secretan*² scleroma has been observed in two brothers. If the disease makes therefore its appearance in an individual already married the other spouse and the children

¹*Stepanow*, Zur patholog. Anatomie und Histol. des Scleroms. Monatsschrift f. Ohrenheilk. 1894.

²*Secretan*, Le rhinosclerom en Suisse. Anal. de Mal. de l'Oreille etc. 1894.

are less endangered than the patient himself who cannot on account of the progressive character of the affection expect it to become cured. Nevertheless the patient often remains for many years able to follow his employment and to work for the maintenance of his family, as the disease progresses but very slowly and gradually.

4. *Glanders and Anthrax.*

Glanders in its acute form causes death within a few weeks, in its chronic form, which may not appear until some months have passed since the infection occurred, after some years. Acute glanders cannot, of course, ever become the subject of a consultation with respect to a contemplated marriage. If a husband or wife or any other member of a family falls ill with acute glanders complete isolation of the patient and disinfection of the linen and other articles in use must be insisted upon on account of the great danger of infection. Chronic glanders is also not likely to come up for consideration in connection with the subject of marriage as the occasionally recurring periods of remission last as a rule only a very short time. During these temporary improvements there must not be a relaxation in the precautionary measures of prophylaxis, since the glanders bacilli may remain for years in the body with their virulence undiminished.

Like all the other diseases which arise and progress acutely anthrax may well be omitted from our present observations.

5. *Actinomycosis.*

As the prognosis of genuine actinomycosis of the skin is in so far as it is accessible to the surgeon's knife favourable, the necessary attitude of the patients before or after marriage is obvious. Here also transmissions from person to person are unknown. The etiological factor principally accused is injury through grain containing actinomyces. If actinomycosis of the skin makes its way into the deeper organs

or if it combines with a disease of the latter, the prospect of a cure and therefore of getting married later on becomes naturally very uncertain. Where the disease makes its appearance in married persons or members of a family it is best for precaution's sake to keep apart all the articles used by the patient, to burn all bandages, etc., so as to prevent an infection of other persons, which although it has not as yet been observed in practice is theoretically very well imaginable.

6. *Dermatomycoses.*

The relations of the married state to the real dermatomycoses, that is: favus, herpes tonsurans in its various forms, and pityriasis versicolor, require only mentioning in brief, as the contagious character of these affections is too well known to cause any difficulties in correctly gauging the situation.

Favus.—Favus is principally a disease of childhood and is only very rarely observed in married individuals. The cutaneous atrophies and scars left behind may in association with the loss of hair occasionally give rise to cosmetic troubles and constitute an obstacle to a marriage, but the assistance of the physician will hardly ever be requested in such cases. Should favus exceptionally attack a married person the common use of all utensils must immediately be prohibited and the appropriate treatment instituted.

Herpes tonsurans.—Herpes tonsurans presents a greater danger of infection than favus, the transmission of which presupposes after all a certain amount of predisposition on the part of the skin. If the disease attacks an unmarried individual it must, of course, be cured first before the sufferer can think of marriage. Where the attacked person is a married man or woman the most careful precautions must be taken to prevent a further spread of the infection. The general way in which men become infected is that they carry away the herpes from barbers' shops. If the disease is recognised soon enough and the requisite treatment adopted, it can be removed easily. On the other hand if it passes into the

deeper structures of the skin it forms a complaint which is most tedious and difficult to combat. Transmissions between adults through osculation, the use of sponges or towels, etc., are frequently observed, whilst the ringworm affections of children owe their origin to other varieties of fungi, and remain as a rule confined to the period of childhood. In the case of disease in married individuals the duty of the physician is therefore to insist on strict separation of persons and articles required for daily use, besides instituting the most energetic treatment.

Pityriasis rosea (*Gibert*).—Another skin-disease which is etiologically not yet completely understood, the pityriasis rosea (*Gibert*), which heals spontaneously after some time and in a few weeks if rational treatment is adopted, deserves here passing notice, as it is regarded by some authors as a form of herpes tonsurans, and by others as an independent parasitic disease. The source of the infection is supposed by *Lassar* to be contained in new underclothing which has not yet been washed, and transmissions through the medium of bathing-linen have also been reported. A conveyance from person to person has not yet been made known, except by *O. Rosenthal*,¹ who has seen it in a few children. For this reason we may consider the danger of infection as very small, though not as altogether excluded, a point of view, again, which dictates the adoption of a few necessary precautions by married individuals.

Pityriasis versicolor.—The risk of infection in pityriasis versicolor, which is a quite harmless complaint, is very insignificant. The affection occurs especially in individuals predisposed to it, who perspire freely, which explains why it is so often observed in consumptives. Transmissions from and to married partners are unknown, so that there is no need for special precautions. The same may be said with regard to erythrasma, a mycotic affection of the skin which occurs on the thighs and which is easily removable.

¹*O. Rosenthal*, Pityriasis rosea. *Encyclopaedie der Haut und Geschlechtskrankheiten*. 1900.

7. Psoriasis.

Of the etiology of psoriasis we know to-day with certainty as little as was known 28 years ago, when *Köbner*¹ explained the disease by assuming a predisposition situated in the cutaneous organs of the sufferer himself. This predisposition is as a rule demonstrably hereditary but occasionally also acquired, and it may remain latent for years, responding always to the most variable internal and local irritants by exactly this form of chronic inflammation of the skin. In the meantime numerous attempts have been made to supply better explanations in the place of the old theory of dyscrasia, such as a chronic auto-intoxication (*Gaucher*),² disturbances of nutrition (*Tomassoli*),³ excess of uric acid in the blood (*Bukley*),⁴ a functional weakness of the nervous centre regulating the nutrition of the skin (*Weil*),⁵ neuropathic proclivity (*Eulenburg*),⁶ and other forms of vasomotor neurosis. As the only definite element which is of importance with regard to the relations between the married state and psoriasis to be discussed here, most authors have found the constantly simultaneous occurrence of psoriasis among several members of the same family. This observation which is made in many cases but not without exception, has been interpreted on the one hand as an hereditary transmission of the disease and on the other as a contagion. The most plausible view is probably the compromise-like opinion of *Neisser*,⁷ that, like in many other diseases, it is the predisposition to the disease, and not the disease itself which is inherited. This

¹*Köbner*, Zur Aetiologie des Psoriasis. Vierteljahrsschr. f. Derm. 1876.
—*Köbner*. Ibidem 1867.

²*Gaucher*, Die Metastasen d. Psoriasis. Verh. d. II. Intern. Kongr. Wien 1892.

³*Tommasoli*, Die autotoxischen Keratodermiden. Hamburg 1893.

⁴*Bukley*, Are Eczema and Psoriasis Local Diseases of the Skin or are they Manifestations of Constitutional Disorders? Tr. intern. M. congr. Philadelphia 1876.

⁵*Weil*, Ziemssen's Handbuch der Hautkrankheiten.

⁶*Eulenburg*, Lehrbuch der Nervenkrankheiten.

⁷Krankheiten der Haut. 1904.

predisposition is, however, in numerous other cases certainly an acquired one. The disease itself *Neisser* regards as a parasitic affection and he draws the conclusion as to its contagious character particularly from the clinical peculiarities of the illness which resemble closely those of many other dermatomycoses. *Unna*¹ goes even further and declares psoriasis to be an extreme modification of seborrhoic eczema, in the parasitic nature of which disease he has believed now for years.

Since psoriasis is a chronic, and mostly even an incurable disease, one might feel inclined to look upon it a priori as a marriage-obstacle. But experience teaches firstly that under the psoriatic skin there lies in most cases a thoroughly healthy body, and secondly, that the complaint can by suitable treatment be as a rule held in check to such an extent that there is no occasion for it to form in itself an impediment to the marriage of the person affected with it. As regards the future family, only a few solitary cases are known in which a healthy husband or wife acquired afterwards psoriasis from a partner who was affected with it, as f. i. in a case of *McCall Anderson's*, where a husband was attacked with psoriasis after having lived for some years with his wife who was psoriatic.

These few isolated cases are, however, of no consequence when compared to the enormous number of married individuals who have remained healthy notwithstanding a prolonged cohabitation extending over years and decades with married partners suffering from psoriasis.

Greater than the risk run by a healthy husband or wife is, however, the danger to which the children of a parent affected with psoriasis are exposed, since they seem to be more susceptible to the invasion of the as yet unknown agency causing the disease, on account of the predisposition inherited also from the father or the mother. This appears to be confirmed by the frequent occurrence of the disease among several brothers and sisters of the same family, as observed e. g. by *Radcliffe Crocker*,² who saw 5 out of 7 brothers and sisters suffering

¹Handb. d. Hautkr. Prof. Mracek, 1903.

²Compare: *S. Gross*, Psoriasis vulgaris. Handb. d. Hautkrank. 1903.

from psoriasis; by *Wutzdorff*,¹ who was able to trace the disease through 4 generations; and also by other authors including myself. In many cases the disease could be demonstrated in the ascendants. This predisposition to psoriasis is not, however, propagated in a family by any means according to definite laws. It can be inherited, but this need not necessarily be the case, and it would mean going to an unjustifiable length were we to conclude from these occasional occurrences that persons with psoriasis but otherwise in good health, are not fit subjects for matrimony. The more so, since, as we know, a large number of individuals get attacked by the disease notwithstanding the absence of such a demonstrable source of origin and considering that, as already mentioned, most cases of psoriasis can, if treated properly, be kept within entirely harmless bounds. An exception is formed by the patients with that malignant form of psoriasis which takes, under the character of a *dermatitis exfoliativa universalis*, a severe course accompanied by serious disturbances in the nutrition of the skin, and by a progressive cachexia. Such individuals are debarred from marriage, as a matter of course. If the psoriasis is associated with gout and affections of the joints, the more serious evil is the one which will be conclusive for the formation of a decision on the point.—Pregnancy and puerperium do not seem to exercise any particular influence upon an existing psoriasis.

8. *Lichen ruber.*

With regard to the etiology of lichen ruber we know as little that is positive as we do with regard to that of psoriasis. There are on the one hand the supporters of the neuropathic theory, on the other those of the parasitic theory. Practically at least, the parasitic character, should it at any time be confirmed by a positive discovery of fungi, is from the point of view of marriage or of married life of no consequence. The

¹*Wutzdorff*, Beiträge z. Aetiologie d. Psoriasis. Vierteljahrsschr. f. Derm. 1876.

isolated cases in which brothers and sisters have been attacked by lichen ruber—there is nothing at all known of the disease having attacked both husband and wife—do not permit any conclusions to be drawn that the contagion takes place easily. Of more importance is the fact that sometimes disturbances can arise through the clinical picture of lichen ruber which may cause a temporary obstacle to marriage or, like any other severe disease, perturb the course of married life. This applies especially to the lichen ruber acuminatus—a disease accompanied by severe itching and often by serious disturbances of the general health, and which has even been known to end fatally in the absence of suitable treatment. Considering the uncertainty of the prognosis, it will be possible to consent to the contemplated marriage of an individual affected with the disease, only if the latter has been absolutely cured, a result which can always be achieved by an energetic course of arsenic.

An affection similar to lichen ruber acuminatus, the *pityriasis rubra pilaris* (*Devergie*), which is by some authors identified with it, and by others regarded as an independent disease, offers in spite of its chronic course, even if spread all over the body, a much more favourable prognosis, especially as it does not affect at all the general health. It would not therefore, apart from æsthetic reasons, which it must be admitted are sometimes rather serious, constitute a marriage-obstacle, if the diagnosis were not often difficult to make, and a distinction from lichen ruber acuminatus at times impossible. Under the circumstances it is therefore better to recommend the patients to await first the completion of the cure, which, it is true, is often very slow, before taking the intended step.

Lichen ruber planus is a disease which can, as a rule, be cured by arsenic in the course of a few months, and which causes only exceptionally disturbances of the general health of a serious character, or an unfavourable issue. A temporary marriage-obstacle may, apart from the external appearance due to a universal spread all over the skin, be formed, perhaps, by the frequently violent itching, which, however, disappears in the cases taking a favourable course, with the vanishing of the visible cutaneous phenomena.

A more obstinate form of lichen ruber is the *lichen verrucosus sive corneus*, which often requires in addition to arsenical treatment external remedies and even surgical operations. It can, like the other manifest forms of lichen ruber, when the affection assumes extreme degrees, produce all those disturbances which are caused by every serious disease in a member of a family.

9. Zoonoses.

Among the zoonoses generally, *scabies* and *pediculosis* in their different forms play an important part, as on account of their easily effected transmission they are disseminated not only by the conjugal intercourse and the cohabitation of the married couples, but also by the infection of children from their parents and vice-versâ. As they can be removed within a few days, a rapid and thorough treatment of all the parties affected is the most important standpoint to be taken up in this connection. As part of the treatment must be regarded a careful disinfection of the clothes and underlinen, as these often form the starting-point of a fresh infection.

10. Essential angio-neuroses.

While the anæmias of the skin, being secondary phenomena of other cutaneous or internal diseases, do not require special consideration in this place, the *congestive hyperæmia*, which is in its mildest form designated as *erythema pudoris*, deserves mentioning briefly. In consequence of a strong sensitiveness of the vaso-motor centre there easily occurs in a number of neuropathically inclined individuals blushing of so marked a character as to cause to the persons thus affected most embarrassing situations in their daily social life. Appearing outwardly in the form of shyness the affection can gradually, owing to the constant fear that blushing may occur at any moment, almost assume the character of a psychical illness. Young men, including many sexual neurasthenics, who are matrimonially disposed can often not sum up sufficient courage

to declare themselves and lose thus the chance to get rid of their complaint, for during the married state with its regulated sexual conditions the uncomfortable affection which *Eulenburg* includes among the essential angio-neuroses as a rule disappears.

11. Congestive hyperæmia. Varices.

Among the congestive hyperæmias, *varices* (dilatations of the veins) have in so far a certain relationship to the married state as they are frequently observed in women in connection with child-bearing and as they can sometimes by their consequential results, such as ulcers on the leg and chronic eczema, give rise to very tedious and even dangerous conditions. If they are situated at the female genital organs the varicose veins may prevent cohabitation. Occasionally traumatic hæmorrhages from such varicose veins have been observed. (Compare with Chapter X., section III.)

Rosacea,¹ a passive hyperæmia with dilatation of the veins which arises partly from inflammatory processes, especially seborrhœa, and partly in connection with affections of the nasal cavity, in women sometimes reflexly by diseases of the sexual organs, is generally of minor importance with regard to marriage, for the reason that it occurs as a rule at a time of life when the majority of those subject to it are already married or too old to think of marriage. For this reason the disfiguring nasal nodules which occur occasionally in combinations of rosacea and acne (*rhinophyma*²) are also not likely to form very often cosmetic objections to the contraction of a marriage. If rosacea does appear in young individuals, the medical aspects influencing the decision as to the existence of a marriage-obstacle must give way to æsthetic reasons.

A third form of passive hyperæmia caused by cold—*chilblains*³—is frequently observed in connection with primary chlorosis and anæmia, the relations between which and marriage are discussed in another chapter. The mutilations which remain

¹Compare Jacobi's *Dermachromes*, plate XLVI.

²Compare Jacobi's *Dermachromes*, plate VII.

behind after frostbites of the third degree can occasionally constitute cosmetic marriage-obstacles. In rare cases these organic mutilations can, if they affect whole extremities, impair the earning capacity of an individual, producing thereby conditions which are capable of preventing the consummation of a contemplated marriage or of causing material injury to a marriage already consummated.

12. Elephantiasis.

Elephantiasis is, according to a definition by *Luithlen*, a chronic disease ushered in as a rule by inflammatory phenomena, which leads among circulatory disturbances especially in the lymphatic vessels to swellings in certain parts of the body followed by an increase in the tissues and in the volume of the diseased part. The *elephantiasis nostras* of the genitals occurs occasionally after the complete extirpation of the inguinal glands and may be the cause sometimes of preventing sexual intercourse. This is, however, in men only exceptionally the case as even a penis which is deformed by a severe swelling can often assume when erected a serviceable shape. In women with elephantiasis of the labia, coitus may easily produce rhagades and injuries which occasion the entrance of inflammatory exciting agents and lead to suppuration and erysipelas. In rare cases an obstruction to labour may also be caused in this way.

All these disagreeable conditions are observed in a higher degree in the *elephantiasis Arabum* which can lead to an extraordinary increase in the size of the genitals. Thus *Reyer*¹ describes how the impossibility to gratify the sexual desire often causes to the patients the greatest torments. The procreancy is, so long as copulation is possible, not impaired; thus in a case of *Clot Bey*¹ the patient begat two children notwithstanding a scrotum weighing 110 pounds.

It is clear that a high degree of elephantiasis of the genitals in unmarried individuals constitutes, where the impotentia

¹Compare with *Luithlen*. loc. cit.

cœundi is established beyond a doubt, an absolute obstacle to marriage.

The relations between elephantiasis situated elsewhere and the married state must also be judged according to the primary cause as well as according to the local condition, that is, from sanitary as well as from æsthetic points of view. In this connection we must not, however, lose sight of the guiding fact that a return to a perfectly normal state of affairs is in most cases impossible.

13. Eczema.

Although eczema is at the present day interpreted by some prominent dermatologists (*Unna*,¹ *Neisser*²) in the sense of a bacterial dermatosis, the occurrence of the infection seems to be dependent upon the presence of certain cutaneous injuries. At any rate this infection takes place only under certain predisposing conditions which in many cases we do not know. It follows therefore that the danger of transmission to others, even in those forms of eczema which have always been characterised as mycotic and among which the seborrhœic eczema minutely described by *Unna* is included, can only be a very insignificant one. *Unna*³ himself says that the cases which present themselves to the clinician as transmissions from person to person, f. i. from the face of a child affected with moist eczema on to the breast or arm of the mother or nurse, are rare; similarly, the epidemics of dry eczema of the face and neck in schools which have recently attracted so much attention, as well as the sudden occurrence in groups of eczema in families which have hitherto been free from eczema. The risk of infection does not therefore play a part worth considering either with regard to the question of the permissibility of a marriage or from the point of view of the married state. On the other hand it is possible for chronic cases of eczema, which cause severe itching and disturb thereby the general health in

¹Pathol. u. Ther. d. Eczems. Vienna 1903. A. Hölder.

²*Neisser*, l. c.

³*Unna*, l. c.

a perceptible manner, so to affect the working ability of the patient as to influence most injuriously the livelihood of the family. If we desire, further, to construct a relationship between eczema and married life, we might at the outside have to take into consideration the eczemas situated at the genital organs which are often very obstinate and, on account of the severe itching and the accompanying formation of rhagades, so painful as to cause a temporary disturbance of the sexual intercourse. Candidates for marriage must of course get rid of this troublesome affection first before they can think of getting married. In married women a frequent cause of this form of eczema is the fluor albus vaginæ which remains behind after the puerperal period. In many married women of the poorer classes who have to do unaided all the rough work connected with their households and the care of the children, and whose hands are therefore more or less constantly in water, the acute and sub-acute eczemas of the hands and arms from which they suffer may very well be regarded as occupational eczema. That the facial eruptions in children designated as milk-eczema depend always upon the nutrition is not admitted by most authors but ascribed to other causes.

14. *Pityriasis rubra (Hebra).*

The skin-disease described as *pityriasis rubra (Hebra)* which attacks as a rule the entire surface of the skin, covering it with an intense dark-red coloration, is in the majority of cases of a fatal character. In some cases it has been possible to ascertain simultaneous internal tuberculosis. (*Jadassohn.*) Though this severe disease, if it affects a candidate for marriage, precludes no doubt the entrance into an engagement to marry, it is nevertheless necessary for the physician to be somewhat careful with the prognosis, as in the first instance, the affection does get cured sometimes, though rarely, and secondly, the clinical picture cannot, at least in its early stages, be easily distinguished from the similar phenomena of the autotoxic erythemata (*Besnier*) or from dermatitis exfoliativa generalisata (*Wilson*,

Brocq), which are as a rule curable. The physician will therefore if consulted with respect to this affection from the standpoint of a contemplated marriage, do best to adopt at first a waiting attitude, and if the symptoms remain unabated for some time to declare categorically against the projected step.

15. *Impetigo contagiosa.*

Impetigo contagiosa, an easily removable affection, plays a part in the married state in so far only, as in virtue of the easy communicability of the disease from child to child, but not infrequently also from child to adult, the precautions requisite in the case of all external communicable diseases must be adopted here also.

16. *Erythema multiforme exsudativum.*

Erythema multiforme exsudativum in its different forms is not, on account of the almost constantly favourable prognosis, of especial interest from the points of view which concern us here. It can form a very troublesome complaint, recurring frequently and often at regular intervals, especially if the mucous membrane of the mouth is affected at the same time, when it is not always easy to distinguish it from pemphigus, but, as it is neither transmissible nor hereditary, it has no other importance with regard to the married state than any other disease taking an acute course.

17. *Erythema nodosum.*

The same thing applies to erythema nodosum which can constitute a marriage-obstacle or lead to a disturbance of the married life, only if accompanied by one of its rare complications, such as endocarditis, pericarditis or articular rheumatism.

18. *Impetigo herpetiformis* (Hebra).

It is sufficient just to mention this rare affection which occurred, in the majority of the cases observed, in connection with pregnancy and resulted after a short time in a fatal issue.

19. *Acne*.

Acne vulgaris, an affection occurring as a rule at an early age, and seldom lasting beyond it, might on account of its predilection for the face and on account of the scars which it occasionally leaves behind, form an objectionable element in a contemplated marriage for purely æsthetic reasons. As it is observed in female persons as a consequence of anæmic and chlorotic conditions, we not infrequently find aggravations during married life where a state of general debility is produced by pregnancy or uterine complaints. In the majority of the cases, though, the affection disappears in married persons of either sex, a circumstance probably due less to the regulated sexual relations of the married state than to the fact that in the middle of and beyond the twenties the disease vanishes altogether in most cases. That absolute chastity belongs to the etiological factors is, according to *Jarisch*, not difficult to refute by every-day observation.

20. *Ulcers*.

Among the forms of ulceration we have already briefly indicated the *ulcers of the leg* with their causal factors and consequential results. As they develop as a rule only later in life, and in women generally in connection with pregnancy and labour, they arise as a point requiring consideration in view of a projected marriage in rare exceptions only, and are then to be judged individually according to their prognosis.

It is, however, different in the case of those chronic forms

of *ulceration of the vulva* which are accompanied by an elephantastic thickening of all the soft parts of the vaginal opening and which must, because of their unfavourable prognosis as regards restitution, be considered also as marriage-obstacles.

What has just been said applies to the *perforating ulcer of the sole of the foot* in so far as it appears as a result or as an accompanying symptom of a cerebro-spinal complaint.

21. *Lupus erythematosus.*

In considering the relations between *lupus erythematosus* and the married state we can ignore almost entirely two rare forms of the same. In one of them, the *lupus erythematosus disseminatus* (C. Boeck), which distinguishes itself by the formation of nodules that begin subcutaneously and ulcerate later on, there is always present simultaneously tuberculosis of the glands or of the internal organs which is the prime consideration in the examination of the questions with which we are dealing here. The second form belonging to the same category—the *lupus erythematosus generalisatus exanthematicus* (Kaposi)—is an acute disease with, generally, a fatal result. Similarly, with regard to the rare combinations of *lupus erythematosus* and *lupus vulgaris*, we have only to recall the points which we mentioned when discussing *lupus vulgaris*. Where there is no tuberculosis, the prognosis of *lupus erythematosus* is nevertheless not very favourable. First of all, judging from statistics which have been published, a number of the persons affected are sure to be attacked afterwards by tuberculosis, and secondly, even if we regard the occasional concurrence of these two affections only as an accident—and this we do—the local character of the skin-disease also dictates as great a reserve as possible with respect to the consent to a contemplated marriage. Although in a number of patients the diseased centres heal up perfectly without giving rise, notwithstanding the superficial seat of the scars, to any particular cosmetic disfigurements, there are great difficulties in the way of the majority of the cases which prevent a definite cure.

Besides, even after complete cures, relapses occur frequently without there being owing to our ignorance of the cause of the disease any means at our command to avert the same. Especially unfavourable in this respect are the cases which are distinguished from the beginning by an extraordinary dissemination of the morbid centres over the whole body and which offer a great resistance to treatment. If, therefore, a patient suffering from lupus erythematosus addresses to the physician the question whether he may entertain the idea of marriage, the physician must in the first instance assume a negative attitude and recommend to the patient to get relieved of his disease first. If the symptoms are successfully removed it is still necessary to continue the observation for some time as is the case in many other diseases. Unfortunately, the number of those patients who get over this test-period satisfactorily is not great, although, as *Jarisch* says, "some cases—but not too many—of lupus erythematosus are capable of being cured permanently, either spontaneously, or by suitable treatment."

If the affection occurs in an individual already married, the relations of the married life, as long as there are no simultaneous tuberculous symptoms, will not be particularly disturbed; in fact, some patients continue for many years with their general condition and working-ability unimpaired. Where the disease is widely spread, and the mucous membranes do not escape, æsthetic objections may perhaps arise on the part of the healthy spouse and in this way bring trouble to the married life. Moreover, the multifarious dangers to which the patient is subject on account of the uncertainty of the prognosis are of an importance not to be under-estimated with regard to the continuance of a happy married life. There is no danger of the disease being transmitted.

22. *Folliculitis atrophicans.*

A smaller part is played, as being a purely local affection, by *folliculitis*, which is closely allied to lupus erythematosus, and leads to more or less circumscribed cutaneous atrophies.

There are formed in consequence hairless and bald patches, mostly on the scalp, which are of interest to the question of marriage and the married state from the cosmetic standpoint only.

23. *Hypotrichosis. Monilethrix.*

This may be said also with regard to the few cases of permanent hairlessness or diminished growth of hair which is generally of congenital origin. As the hereditary transmission of these anomalies occurs only occasionally and by no means regularly, the physician has no need to place any obstacles from the medical standpoint in the way of persons hereditarily predisposed in this direction who contemplate the contraction of a marriage.

What has been said applies equally to another arrested growth of the hairs, which always appears hereditarily—the *monilethrix* or *aplasia pilorum moniliformis*.

24. *Epidermolysis bullosa hereditaria.*

Among the bullous affections, the *epidermolysis bullosa hereditaria* claims our consideration first. It occurs frequently but not, as recent observations have shown, constantly, as an hereditary or family affection, and is characterised by a tendency on the part of the skin to respond with a formation of vesicles to external irritations. This affection cannot, as far as is known, be influenced therapeutically, and it disappears as a rule spontaneously during old age. In two cases a lasting cure was observed after the first pregnancy (*Bonaiuti, Colombini*). Its importance in the married state lies less in the possibility of hereditary transmission from one of the diseased parents to the offspring than in the constant discomfort and perturbations which the patients themselves experience. Such patients possess frequently only a very reduced working ability, as they are almost always subject to constant injuries either of the hands or of the feet, on account of the blisters which

they suffer from and which on bursting leave excoriations and occasionally ulcerations or even in some cases permanent changes, e. g. atrophies of the skin and deformities of the nails. And yet the general condition is always unimpaired. Conclusive with regard to the question of marriage is, in the case of an individual affected with this disease above all, his social position and mode of employment. The less dependent one is upon manual labour, the less intense will be the sufferings resulting from the constantly recurring formation of vesicles. In connection with an eventual contraction of marriage it will therefore be social rather than purely medical considerations which will require studying. Only in those very rare cases in which a constantly recurring hereditary transmission of this peculiar tendency of the skin has been observed through several generations, is it advisable for the physician to raise any objections against a contemplated marriage out of regard for the eventual progeny.

25. *Pemphigus*.

We can leave out of our discussion from the group of pemphigus-diseases the cases of *pemphigus acutus contagiosus infantum* and those of *dermatitis exfoliativa neonatorum* (Ritter), the first of which arises through infection, and takes generally a favourable course, whilst the second is of a malignant character and almost always fatal. They are children's diseases and as such of no particular interest to the subject of marriage.

As regards *pemphigus vulgaris* and its special forms, *pemphigus foliaceus* and *pemphigus vegetans*, there is always a necessity for the physician to declare against the contraction of a contemplated marriage, because of the extraordinarily unfavourable prognosis of the last-named diseases. In pemphigus vulgaris cures do occur occasionally but very rarely. It is, however, possible in such cases to speak of a real cure only, if a number of years have elapsed without there being a recurrence. Frequently the disease breaks out afresh after

many years of remission with the health perfectly unimpaired and ends then in spite of the early benignness fatally. The prognosis is most unfavourable if the disease commences at the mucous membranes or if it affects the same at an early stage. For this reason it is advisable that the physician should warn against marriage in most cases of pemphigus vulgaris. On married life the disease exercises no other effect than any other serious malady. Considering that the illness lasts as a rule for many years and that it occasions enormous expenses for attendance and nursing, pemphigus can seriously disturb not only the happiness of married life but also the pecuniary position even of people who are better off.

More favourable is the prognosis of the so-called *dermatitis herpetiformis* (Duhring). This disease which is interpreted in the sense of a neurosis *dermatitis neuritica* (Ittmann and Ledermann), offers *quoad vitam* a good prognosis, as the general health does not suffer in spite of the great subjective discomfort either during the periods of eruption or afterwards. The difficulty in estimating its importance from the point of view of a projected marriage lies rather in the differentiation of this certainly independent disease from the group of pemphigus-diseases with which it has occasionally some symptoms in common. Where the diagnosis of the affection is certain there can hardly arise any objections.

26. Sclerodermia.

For the estimation of *sclerodermia* as a marriage-obstacle the degree of the disease is on the whole conclusive. As a general principle we must take it for granted that no patient may marry as long as there are any signs at all of the disease present. But even after a cure has been effected it is also desirable to continue the observation for some time, since local relapses as well as sudden outbreaks in fresh places which were formerly healthy, are observed sometimes many years later.

The most favourable form is the *sclerodermia circumscripta* (*Morphæa*), which may heal either spontaneously or yield

to suitable treatment, frequently without leaving any symptoms. Occasionally atrophies which have remained behind may lead to disfigurements in the face and thus prove an obstacle to marriage. Married life is only exceptionally perturbed by the circumscribed form.

The prognosis is far more unfavourable in *sclerodactylia* and in the diffuse form of the disease which may be looked upon as objections against the contraction of marriage. The prolonged course of the disease which may last for many years, and the functional derangements caused by the atrophy and the flexures which may even become worse by the affection of the tendons, muscles and bones, and finally the slight prospect of cure justify the protest against the consummation of a marriage. The presence of the disease in a married individual must be judged like any other chronic ailment. *Sclerodactylia* which may exist for many years without endangering life is particularly apt to lead to the permanent loss of the use of both hands, thereby influencing most unfavourably the material position of a family whose bread-winner happens to be thus affected. *Scleroderma diffusa*, too, presents on account of the constant change of the various stages of the disease, remissions which render life for a time and sometimes for long periods endurable. It is even possible occasionally by the application of therapeutic measures to achieve a favourable result and to enable the patients to follow their employment for a long time. As a rule, however, the improvement is of a temporary character only; in some cases death ensues more quickly, and in others not before many years have elapsed during which the patients have suffered severely from local symptoms. The fatal issue is in these cases preceded by signs of disordered nutrition and marasmus, frequently complicated by diseases of the kidneys, of the lungs and of the heart. There is no risk of infection from husband to wife or vice-versâ.

27. *Atrophies of the Skin.*

Among the various diseases leading to cutaneous atrophies, in addition to those already named, *crourosis vulvæ*, an affec-

tion as to the etiology of which we are quite in the dark and which results in a shrinking of the vulva, deserves to be mentioned here briefly, because it frequently prevents cohabitation or obstructs labour by constricting the vaginal canal. Pregnancy and childbirth as such have no influence on the origin of the disease. In a number of cases a cure has been accomplished by an excision of the entire diseased region. The doctor's consent to the contraction of a marriage depends therefore entirely on the success of the treatment adopted.

28. Neurodermias.

Among the nervous diseases of the skin *urticaria* acquires an importance from the point of view of matrimony only if it arises as a consequence or accompaniment of an internal or constitutional affection (nephritis, hepatitis, diabetes). In such case the primary complaint is, of course, the decisive element in the situation. A predisposition to urticaria is often inherited. Particularly after the administration of the same drug one often sees urticaria occurring in several members of the same family.

Like urticaria, *pruritus essentialis* must be judged similarly from the point of view of the married state.

Prurigo (*Hebra*) which is etiologically allied to urticaria, and which causes trouble during childhood chiefly, can exceptionally make itself felt in its severe form only, in older people as well, and act disturbingly on married life, as the patients are apt in consequence of the constant itching and the sleeplessness to which it gives rise to become extremely nervous. It is principally the patients belonging to the poorer classes who have to suffer from this disease which is happily seldom very severe, because they are as a rule not in a position to take the hygienic measures necessary to make the condition endurable. In the case of such patients the peculiar constitution of the skin might occasionally on cosmetic grounds prove an obstacle to marriage.

Of the various forms of herpes, *herpes progenitalis* just

deserves to be mentioned in this connection because it frequently constitutes an obstacle of short duration to cohabitation, and also because in some cases it occurs in association with sexual intercourse.

Herpes zoster also can, if accidentally situated at the genitals, form a temporary local obstacle to cohabitation. Such cosmetic remnants as keloids and pigmented scars can only in exceptional cases constitute marriage-obstacles.

29. *Hyperidrosis manum et pedum.*

The offensive odour of the sweat of the feet or a moist clammy hand affected with hyperidrosis can sometimes be a disturbing element in connection with a projected matrimonial union. A permanent cure of these affections in so far as it does not occur spontaneously, can be achieved by our methods of treatment in very exceptional cases only. But occasional improvements of a strongly marked nature and even cures are observed, so that the annoyance to other people ceases to exist, and the chances of those candidates for marriage who suffer from the complaint undergo a material change for the better.

30. *Ichthyosis.*

Among the hyperkeratoses, *ichthyosis*, which as such is likely to prove a marriage-obstacle in extraordinarily severe cases only, acquires importance from the circumstance that in most cases a direct hereditary transmission from parents to children can with certainty be demonstrated. (Lesser.) *Thibierge* and *Fournier* also ascribe to marriage among consanguineous relations the origin of this complaint.

31. *Seborrhoea.*

The *seborrhæa* of the face and especially of the scalp which, if it lasts long and is not treated properly is often accompanied by loss of hair, offers so far as the contraction

of marriage is concerned hardly more than a cosmetic interest. Although the general opinion is in favour of the parasitic character of this affection, there is not much difficulty in avoiding the risk of infection, provided the husband and the wife use separate hair-brushes, etc. In many families the predisposition to the disease is transmitted from the parents to their descendants.

32. *Alopecia areata*.

Alopecia areata, of which the writer distinguishes two forms, a nervous one, frequently of traumatic origin, and a parasitic one, can generally be cured completely in a few months or perhaps only after some years. As the danger of infection in the parasitic form is only very slight if the necessary hygienic care is exercised, the disease possesses in its relation to marriage and the married state hardly more than an æsthetic importance. But in those very rare malignant and often incurable cases which are accompanied by a universal loss of hair on the head, face and other parts of the body, the patients may present such a repulsive appearance that as candidates for marriage they have absolutely no chance.

33. *Tumours*.

We may omit from our consideration in this place the relationship between tumours and the married state. The benign tumours can hardly claim more than a cosmetic interest as long as there is no disturbance of function. The importance of the malignant cutaneous growth among which we include also *mycosis fungoides*, the *leukæmic* and *sarroid* tumours as well as those associated with *acanthosis nigricans* and those which develop on the basis of *xeroderma pigmentosum*, is easily understood.

XVII

Diseases of the Organs of Locomotion in Relation to Marriage

XVII

DISEASES OF THE ORGANS OF LOCOMOTION IN RELATION TO MARRIAGE

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The diseases of the skeletal system are principally in so far of importance with regard to marriage and the married state as they are capable of giving rise to changes in the pelvic bones, i. e., in the canal of parturition. Extensive deviations in the structure of the pelvis will form a complete obstacle to labour. Or the married state is indirectly influenced by osseous changes since extreme deformities of the thorax bring danger to the pregnant or parturient woman by force of the altered conditions of pressure or through injuries to the contents of the false and true pelvis.

Difficulty in cohabitation.—Coitus also may be rendered impossible or at any rate difficult, by severe changes in the bones, impossible for instance in extreme cases of osteomalacia where the narrowness of the pubic arch does not permit of an immissio penis. Under these circumstances the semen is deposited on the external genitals and conception can only take place if the spermatozoa reach the vaginal canal by means of their own motility. In cases of severe adduction- and flexion-contractures after coxitis and other diseases of the joints sexual intercourse in the normal way becomes difficult, if not altogether impossible.

Careful examination reveals a divergence in the pelvis of nearly every woman. May this difference be ever so slight, it is always in proportion to the general development of the individual, but so long as the pelvis still comes within the limits of normality it presents no obstacle to parturition. A pelvis is abnormal if the diameters are so narrow that a disturbance

in the pregnancy, the parturition or the puerperium must of necessity ensue. The term "contracted pelvis" is here generally applied. From the obstetric point of view, we must consider each pelvis as contracted which is in one of the principal diameters by at least $1\frac{1}{2}$ -2 cm. smaller than the normal. Prognostically speaking we distinguish 3 groups:

1) The absolutely contracted pelvis, whose shortest diameter does not exceed $6\frac{1}{2}$ cm. This does not under any circumstances permit of the normal birth of a mature living child.

2) The contracted pelvis, which, though permitting under favourable circumstances the birth of a living child, presents nevertheless a constant danger of unfortunate issue to both mother and child, and the probability of a difficult and protracted labour. The limits lie here between $6\frac{1}{2}$ cm. and 9 cm. in the conjugate.

3) The contracted pelvis, which, though not presenting a mechanical obstacle, yet is the means of forming an abnormal position of the child's head.

The contracted pelvis brings many dangers to mother and child and it is these dangers which claim our attention in this chapter.

Frequency of conception in contracted pelvis.

—About 20% of women have a contracted pelvis. As a rule they are less fertile than normal women, a circumstance which is principally due to the fact that a woman with pronounced osseous deformities does not readily find a husband and therefore has smaller opportunity for sexual intercourse. Severe injuries received in a previous difficult labour may also render further cohabitation and conception impossible.

The circumstance that such women give birth to more boys than girls is only indirectly a result of the pelvic anomaly but is rather due to the fact that they marry as a rule late in life.

Influence of the contracted pelvis in pregnancy.—This becomes apparent chiefly in the last months. The uterus is in the severer forms situated high above the pelvic inlet because the narrow pelvis is no longer capable of holding the apex of the ovum which, under normal circumstances, is

directed downwards. The uterus acquires therefore too great a mobility, owing not only to the narrowness of the pelvis but also to the laxity of the abdominal walls and of the ligaments, as well as to a greater roominess in the abdomen. In some forms of pelvic changes there arise in the first months already, retroversion and afterwards retroflexion of the pregnant uterus. If the pregnant uterus is pushed backwards by the pressure of the abdominal organs it will not afterwards be able to pass in front of the projecting promontory of the sacrum.

Of frequent occurrence in contracted pelvis is the formation of the so-called pendulous abdomen, caused by the anteversion or ante-flexion of the gravid uterus. The uterus stands very high, is movable and cannot on account of the severe curvature produced by the pregnancy find room any longer in the abdominal cavity, thus giving rise to an early relaxation of the abdominal walls which arch forward more and more. In some cases and above all in pelvis with too small an inclination, in which the abdominal space is seriously diminished by the short distance between the symphysis and the ensiform process or by a severe curvature of the spine, and also in those which on account of too great an inclination cause the anterior abdominal wall to be overburdened, the uterus sinks forward and produces still greater relaxation and looseness in the abdominal coverings. Severe curvatures of the spine, especially pronounced lumbar lordosis, are also capable of producing a pendulous abdomen. A further fairly frequent sequel is the change in the shape of the uterus; thus spherical, transverse-elliptical and crooked forms have been observed.

Position of child.—The position and attitude of the child are also influenced by this abnormality. Abnormal presentations of the fœtus are far more numerous, viz.: head presentations about 10% less frequent, than under normal conditions; prolapse of the funis and of the extremities 4 times as often and face, shoulder and breech presentations 2-3 times as often. The higher the degree of contraction the more frequent abnormal positions.

Influence of contracted pelvis on labour.—Parturition is often protracted where a narrow pelvis forms

an obstacle to labour, for a much greater strain is required to bring the process to a conclusion than is the case under normal conditions. The accompanying overexertion is calculated to endanger mother and child.

Labour pains.—A generally contracted pelvis very often coupled with imperfectly developed uterine musculature, causes a decline in the labour pains. The narrowed pelvic brim forces the head of the fœtus prematurely into the pelvic canal, but the latter being contracted arrests the progress and thus prohibits the natural movements of the ganglia situated in the antero-inferior uterine segment. If the head enters the pelvis, but its passage is blocked by the contraction of the succeeding pelvic planes, an excessive irritation of the ganglia ensues and the pains assume a pathologically severe character. The latter symptoms may, however, be due also to an overstimulated action of the abdominal muscles.

A further calamity is the premature rupture of the membranes, which still more delay the labour process since the head cannot, as under normal conditions, exercise a dilating influence upon the os uteri, the dilatation of the os remaining in abeyance until the head has overcome the obstacles.

Moreover, the head not filling the lower uterine segment properly, the whole of the liquor amnii escapes.

If the pelvic outlet is not contracted the labour is soon completed, once the head has entered the pelvis.

Prognosis of labour.—In moderate pelvic contractions the prognosis is more favourable for the mother than for the child; in the severer forms it is bad for both; in the absolute form doubtful for the mother, fatal without treatment (Cæsarian section), with treatment eventually favourable.

Injuries to the mother.—These consist chiefly of bruises to the soft parts if the head is wedged in between the promontory and the symphysis, degenerating into gangrene, fixation of the uterus in the region of Douglas's pouch, inflammation of the bladder or some forms of vesical fistulæ. Pressure on the roots of the sciatic plexus may also result, and, in very protracted labours, laceration of the utero-vaginal canal and rupture of the latter from the vagina; and all these may be

supervened by puerperal fever. At times one or more of the pelvic joints especially the symphysis pubis are torn away. In very much protracted labours there is danger of decomposition or the secretions from the genital canal filling the uterus with gas (tympania uteri). The uterine walls become greatly distended, the uterus rises as high up as the diaphragm, the labour pains dwindle or stop altogether and pyrexia ensues as a consequence of this infection.

Operations, too, frequently imperil the mother's life. Perforation *per se* is not dangerous, and version only slightly so, provided it is done aseptically and sufficiently early. But where the cervix is already dilated, there is always a risk of rupturing the uterus. The use of the forceps may do much harm where the head is high up. Breech presentations are more favourable for the mother. The soft breech can cause no bruises, and the after-coming head may be extracted so quickly as not to damage the soft parts either, since it is not the intensity but the prolongation of the pressure that causes the mischief. Nor are transverse presentations—if recognised early enough and treated promptly—very dangerous for the mother, though they may bring disastrous results with them if allowed to drag on unduly. A certain amount of association between contracted pelves and eclampsia cannot, in view of *Staudé's* researches, be denied, although these researches on the subject are not yet concluded.

Injuries to the child.—So far as the child is concerned, the almost unavoidable protraction of the labour alone is not without its dangers. If the labour pains remain strong after the rupture of the membranes and the escape of the liquor amnii, the blood is pressed out during the pains from the maternal blood-vessels not towards the placenta but towards the abdominal vessels of the mother. This exerts an unfavourable influence upon the quantity of oxygen in the fœtal blood, akin almost to asphyxia. The sex of the child, too, may play here an important rôle. Boys usually have a larger and firmer head and the birth of a male child occupies a longer period, thus involving a concomitant disturbance in the placental circulation. In addition, the pressure produced by the head is

apt to excite the vagus and thereby depress the pulse-rate with letal effect.

Owing to violent contractions, a detachment of the placenta may also take place. That prolapse of the funis or other small parts occurs comparatively often in contracted pelves, and that in the absence of proper and prompt skilled assistance the child's life may be jeopardised has already been pointed out.

While the head passes through the narrow genital canal, it adapts itself to the latter by the overlapping of the cranial bones, but rarely causing any injury.

Sometimes, though not often, we may witness a rupture of the sinuses underlying the cranial sutures, especially of the superior longitudinal sinus, provoking a fatal hæmorrhage into the cranial cavity. The pressure of the sacral promontory may flatten the fœtal bones lying next to it. This happens particularly to the posterior parietal bone in anterior parietal bone presentations, while the convexity on the opposite side is increased. At the same time fissures may arise, though these are of minor importance. On the soft parts of the head pressure-marks may be left behind through the pressure of the symphysis, and of the promontory, if the labour and, in consequence, the pressure were of long duration. A partial swelling of the head, an œdema of the eyelids may also be in the wake of the compression of the ophthalmic vein by means of the superior orbital fissure.

Circumscribed pressure-spots, leading even to necrosis, are found principally on those parts of the cranium which lie opposite to the promontory, commonly on the parietal or frontal bone situated posteriorly.

Of the severe injuries to the head, infractions and depressions easily head the list. The grooved-shaped depressions along the border of the parietal bone which is near to the coronal suture are of the most frequent occurrence.

More dangerous, however, are the spoon-shaped depressions on the frontal and parietal bones, i. e., deep indentations into the bone with one or more fissures at the periphery. The prognosis is not favourable (34% of deaths). In head pres-

entations, or when the after-coming head is violently extracted, a separation of the parietal and temporal bones may take place at the squamous suture, often proving fatal by virtue of the laceration and hæmorrhage of the sinus.

The prognosis is still more unfavourable when a separation of the epiphysis of the occipital bone occurs through the pressure on the occiput of the after-coming head—it may happen even in head-presentations. This proves always fatal as it causes either hæmorrhage into the cranial cavity or direct compression of the medulla oblongata.

The forceps may in difficult extractions cause a transverse fracture of the occiput at the place where the *suturæ mendosæ* subdivide the bone. Other severe destructions may be wrought in the course of difficult forceps-labours. Injuries to the extremities accompanying manual extraction and liberation of the arms, such as fractures of the clavicle and of the humerus or separation of the epiphysis are numerous. Paralysis of the upper extremities may follow the laceration of the brachial plexus. *Erb's* paralysis may also be produced in this way. At the neck, if extraction is made by the head, the mischief may consist of ruptures of fibres of the posteriorly situated sternocleido-mastoid muscle, which may lead to hæmatoma and subsequently to torticollis.

Prognosis of repeated labours.—As to repeated labours the prognosis is most favourable in the second parturition. The soft parts which at the first labour were as yet very rigid have, at least to a certain extent, been stretched by the former confinement, so that, the circumstances being alike, more favourable results may be anticipated. The situation is again unfavourable in subsequent labours. The fœtal head becomes larger and harder, the pains more and more weak, and the abdominal pressure ever more insufficient.

We have here given a rough sketch of the dangers that emanate from a narrow pelvis for both mother and child.

This is of course not the place to go into a detailed description of the pathology of the contracted pelvis. We take it for granted that the reader is familiar with it since it forms an integral part of all text-books on obstetrics.

What interests us here primarily are certain frequent diseases about the influence of which on the married state, medical practitioners are often called upon to express an opinion.

1. *Rickets.*

Influence of rickets on the pelvis of the child.

—Rickets, the primary cause of changes in the pelvis, attacks the child in its first or second year, when the infantile pelvis consists as yet of separate osseous portions attached to one another by cartilaginous substance. Under normal conditions this pelvis will readily support the superstructure of the body. In cases of rachitis running a mild course it also happens occasionally that no disturbance in the normal development of the pelvis takes place. Thus *Ahlfeld* (*Lehrbuch d. Geburtshilfe*, 1898) mentions cases in which rickets had demonstrably been present, but in which he could detect no changes in the pelvis. Nevertheless, it is possible for these eventual changes to be so slight that owing to the fallacies connected with pelvic measurements during life they may remain unrecognised. In severe rickets the development proceeds somewhat as follows: The osteoid layer situated between bone and cartilage remains unossified, and attains fairly large dimensions. On account of the soft intermediate tissue the firm attachment between cartilage and bone is loosened and thereupon yields more readily to the pressure and traction acting upon the pelvis. Moreover, the bone itself is thinner than the normal and therefore more liable to be affected by curvatures and inflections. When the rickets heals, the deviations from the normal pelvis persist, the same as the severe changes in the extremities and in the thorax. These deviations are produced by the dislocations of adjoining bones and partly also through compression of the osteoid structure at the epiphyses. If the child is not yet able to walk or has lost the ability to do so, the whole weight of the trunk rests during the sitting posture on the pelvis. The lateral counter pressure is eliminated and the pelvis is compressed from behind and above forwards and downwards.

The upper part of the sacrum is pushed downwards, the promontory sinks lower, the whole sacrum turns round its oblique axis, its lower part gets bent like a hook. The sacral vertebræ are pushed forwards and compressed from behind. The iliac fossæ diverge anteriorly from one another, because the ilio-sacral ligaments exercise a stronger traction upon the posterior spines on account of the forward projection of the sacrum. This divergence of the iliac bones is still further increased by the greater pressure of the intestinal gases present in the distended abdomen of rachitic children.

In consequence of this the acetabula look forward and press during the attempts to walk against the anterior surface of the pelvis, so that its flatness is still more increased. The tuberosities of the ischial bones are forced laterally, the pubic arch is thereby enlarged and the symphysis assumes a more oblique position.

Rachitic flat pelvis.—The prognosis corresponds with that of the contracted pelvis.

Pseudo-osteomalacic pelvis.—In severe forms of rachitic pelvis there may be observed such a high degree of flatness that angular infractions actually occur on both sides. The more the base of the sacrum is pressed forwards and downwards, the more marked the flatness, the more the pelvis approaches the reniform shape. If, notwithstanding the very severe character of the disease, the child can walk, the acetabula are driven into the pelvis by the heads of the femora. Should the severe rachitis be also accompanied by an osteoporosis of the bone which is already firm, a form of pelvis develops which, on account of its resemblance to the malacosteon pelvis, is called pseudo-osteomalacic, or pseudo-malacosteon. The pelvic ring presents a shrunken appearance, the upper part of the sacrum is pushed deeply into the pelvis, the acetabular regions approach each other. Labour, under such circumstances, becomes absolutely impossible, and Cæsarian section remains the sole remedy.

Pelvis spinosa.—Frequently in rachitic pelvises sharp edges and pointed prickles are formed especially in the anterior wall and sometimes also in the promontory.

The generally contracted flattened pelvis.—

Rarer than pelves contracted in the true conjugate only, are those which, besides being flattened in the antero-posterior diameter, are contracted in the other diameters as well, so-called generally contracted and generally contracted flattened pelves. The prognosis of labour is here very unfavourable for both mother and child, for the child particularly on account of the early rupture of the membranes, the long duration of the labour, and abundant malpositions. In the milder cases the forceps, or better still, artificial premature labour after the 30th week, might constitute suitable treatment, whereas in the extreme cases, with a conjugate below 8cm., we can only entertain preforation or Cæsarian section.

Generally speaking we may say that the narrower the conjugate in proportion to the oblique diameter, the more the conditions approach those of the flattened pelvis, and, if reversed, those of the uniformly and generally contracted pelvis.

The generally and uniformly contracted pelvis.—This is to be regarded only in the smaller number of cases as the resultant of rickets, while the major portion is due to chondrodystrophy and cretinism. On the other hand the generally contracted flattened pelvis is well-nigh always the product of rickets. As to the mode of origin, there are various opinions. *Olshausen-Veit* believe that in these cases a very severe form of rickets had made its appearance early, healing up again, however, soon with complete inter-ossification of the single bones. Other authors ascribe the origin to the growth-inhibiting influence of the disease on the bones on the one hand while on the other hand the sacrum is pressed forwards and downwards. Children with rickets often remain backward so far as size is concerned.

A generally and uniformly contracted pelvis,—contracted, if not in the anatomical sense of the oblique diameter, at least in an obstetrical sense—is also formed if in consequence of rickets the sacrum is moved so much forward that the promontory comes to lie in the oblique diameter.

Prognosis in generally and uniformly contracted pelvis.—The course of labour is here very much retarded, the head enters into the pelvis but slowly, and the passage through it is still more prolonged. The difficulties are not overcome with the entrance of the head into the pelvis but persist throughout the time of its presence therein. The strength of the pains also proves inadequate.

Gangrene and pressure-marks in the child are not so frequent as in cases of flattened pelves; they are situated, when they do occur, mostly on the posterior frontal bone. The same applies to impressions of the bones. In the displacement of the bones the occiput is usually pressed underneath the parietal bones.

With a conjugate of 8.9 cm., it will be best—if the pregnant woman has come under observation soon enough—to institute artificial premature labour in the 34-36th week. With a conjugate under 8 cm. it is advisable to perform Cæsarian section soon after the commencement of the pains, provided the external surroundings are favourable.

Injurious sequelæ evolve during labour principally through more or less intensive bruises of the soft parts in the entire sphere of the pelvic ring, though this happens oftener in flattened pelves. Vesical fistulæ do not form so easily, but circular contusions round the os uteri may frequently be observed.

Rachitic kyphosis.—A kyphosis supervening on rickets will alter the character of the rickety pelvis according to the time of life at which it sets in, if at the starting-point of the rickets, it changes the appearance of the pelvis so materially that but few of the characteristic signs of rickets are left behind. The sacrum is twisted round its oblique axis, so that the true conjugate is only slightly or not at all diminished, sometimes even increased, while the straight diameter of the pelvic outlet is shortened. The promontory is very high, and the vertebræ may at times protrude posteriorly. If the kyphosis sets in after the commencement of the rickets, the tubera ischii are so much drawn inwards that the sitting position still further contracts the pelvis. But if it supervenes at a later

stage, the tubera ischii are as a rule already rotated outwards, and this position they then retain.

2. Osteomalacia.

Osteomalacia—or mollities ossium—is properly speaking a puerperal disease, although many cases are reported by *Truzzi*,¹ *Hofmeier*,² *Preindlsberger*³ and others as having occurred in girls and men.

Osteomalacia consists of a softening of the osseous substance due to halisteresis or a dissolution of the lime-salts. This process begins at the periphery of the osseous trabeculæ and progresses towards their centres. Whether a new formation of osteoid substance, that is, substance without lime-salts, takes place at the same time, as *Cohnheim* assumes, is, though not absolutely certain, yet very probable.

This morbid process in the bones is prone to bring about most acute changes in the skeleton. Thus in some of the worst cases the bones have been found to consist merely of membranous sacs filled with bone-marrow.

The starting-point varies with the form of the disease. In puerperal osteomalacia the first part attacked is almost invariably the pelvic bones; whilst in the non-puerperal form it is the vertebral column and the thorax, leaving the pelvis intact; but there are exceptions. As a rule the process runs a fairly similar course in both forms, now remaining stationary, or else spreading over every bone in the skeleton.

Etiology.—As for the etiology of osteomalacia our present knowledge is inadequate to form a definite opinion.

Besides the causes resident in the organism and controlling the affection, there are probably other external factors to be reckoned with, as is evidenced e. g. by the observation of the geographical distribution of the disease, and by other circumstances to which we shall presently recur.

¹Zentralblatt für Gynækol., 1890. Beilage 6, X. Internat. Congress.

²Zentralblatt für Gynækol., 1891.

³Wiener klin. Wochenschr., 1893. No. 21.

In speaking of the geographical distribution of osteomalacia we are confronted by the remarkable fact that, in Germany, for instance, the Oder district is almost free from the disease, whilst in the Rhine districts it is fairly prevalent. And the frequency of the cases varies again materially with different years. Even the animals living in the regions affected are not infrequently attacked by it.

To damp and unhealthy dwelling-places the cause of the disease is often ascribed. Attempts have also been made to hold malaria responsible for it, thus *Velits*¹ reports that in Hungary osteomalacia thrives where malaria and cretinism abound. A connection between osteomalacia and rickets has not been established. *Fehling*² sees the cause of osteomalacia in an increased activity of the ovaries. *Cohnheim* considers the malady as a disorder of nutrition, inasmuch as the maternal organism contains an insufficiency of calcium to satisfy the demand for lime-salts required by the fœtus and for the production of milk. *Fellner*,³ who has recently reported more than 40 cases of osteomalacia of his own observation, found in every one of his patients profuse menstruation lasting as a rule an undue time. He calls attention to the slight relapses in cases of pseudo-menstrual hæmorrhages after castration, and he sees further in a case of cure after a porro-operation, published by *Schauta*, in which the ovaries were left behind, a proof of the close etiological connection between osteomalacia and menstruation.

The various acid-theories as well as the theories which look for the principal etiological factor in bacterial activity we can ignore, seeing how very little they rest upon unimpeachable investigation. We may well take it for granted that in all probability the etiology of osteomalacia is rather complicated. Multiparæ are most frequently attacked. *Fellner* found among his cases an average fertility of 6.5, *Fehling* one of 5.4, *Baumann* one of 6.8, *Rosentraeger* one of 8.2. In *Fellner's* cases

¹Zeitschr. f. Geb. u. Gyn., Vol. 23.

²*Verholgen*, d. Deutsch. Ges. f. Gyn., 1888, and Archiv f. Gyn., Vol. 39, 48. Zeitschr. f. Geb., Vol. 30.

³Bezieh. inner. Kr. z. Schwanger, etc., 1903.

osteomalacia made its first appearance 5 times in the second pregnancy, 6 times in the third, 8 times in the fourth, 4 times in the fifth, twice in the sixth, 3 times in the seventh, once in the eighth, and once in the ninth. The majority of the patients were between the ages of 30 and 35. The oldest woman known in literature to have been attacked by osteomalacia was 52, the youngest 13.

Symptoms.—The symptoms of osteomalacia can easily be described with the aid of *Fellner's* work just mentioned in view of the fact that it is based upon such abundant material.

Osteomalacia begins as a rule with "rheumatic" pains in the affected bones which at first are sure to be misunderstood. If the pelvis is attacked, as is always the case in the puerperal form, it becomes altered into the flat osteomalacic pelvis which passes more or less rapidly—according to the progress of the softening—into the well-known characteristic form in which it shows the typical triradiate shape. The promontory sinks and is finally situated far below the level of the pelvic inlet. The sacrum bends, so that the angle of the bend projects backwards. The pelvic inlet shows a typical reniform shape. The true conjugate as well as the transverse diameter undergo shortening at a fairly early stage. A lumbar kyphosis supervening sooner or later completes the aspect of the disease. According to *Fellner* the affection of the lumbar vertebræ generally runs parallel with that of the pelvis. The changes in the shape of the pelvic bones are produced by the same agents as other deformities due to superincumbent weight, namely the weight of the body, and muscular traction. But as a further element is added the burden imposed upon the pelvic ring by the growing uterus and its contents. The affection of the bones is further aggravated by a relaxation of the joints which may at the symphysis provoke the formation of genuine fissures.

Affection of the muscles.—The changes do not, however, affect merely the bones and joints, but they extend also to the muscular system, if only in a secondary manner, as some authorities hold, though others believe also in primary affections. These changes in the muscles consist of pareses, atrophies and contractures. *Latzko* and others have called

special attention to the contractures of the adductor and of the levator ani as early symptoms. *Fellner*, however, could not confirm them at the earlier stages of osteomalacia, though he could trace them at later periods. He found contractures in the adductor muscles whenever there was severe pain in the thighs. In one case there was atrophy of the deltoid muscle along with severe pain in the shoulder.

. As regards the pains occurring in osteomalacia they commence as a rule in the thighs and at the lower part of the thorax, extending afterwards to the sternum and the upper ribs. Only in the most extreme cases are the upper extremities and the head also seized with pain.

Diagnosis.—Having now delineated the picture of osteomalacia which is decidedly characteristic of the culminating points of the diseased process, the question at once arises: How can we speedily arrive at a correct diagnosis? We have already pointed out that the “rheumatic” pains announcing the disease previous to the appearance of deformities, are as a rule misunderstood, almost as a matter of course. The very vagueness of the term “rheumatic pains,” usually employed in such cases, serves as a proof. It will therefore be necessary in regions where osteomalacia is endemic at all, to think of this disease whenever pelvic pains are encountered in the course of a pregnancy. Careful observations will render an early diagnosis possible. *Schauta* points out that this can be achieved by comparing the difference that exists between the height of the body and the form of the pelvis.

Prognosis.—Regarding which we have already said that the disease may heal spontaneously, but that it is liable to recur in subsequent pregnancies, if it does not remain progressive at the termination of the present pregnancy. The prognosis will therefore always abide as a serious question. Should we be called upon to express an opinion on the intended marriage of a young girl who has already gone through the rare non-puerperal form of osteomalacia, it would be our duty to firmly oppose it, knowing the imminent danger of a relapse during an eventual pregnancy. For the puerperal form, of course, the only way open is to recommend therapeutic measures. It may

serve a good purpose to mention here the favourable results obtained by *Winkel* with phosphorus, and to emphasize the beneficial effects of castration (*Fehling*) in the treatment of osteomalacic processes.

Prognosis of labour.—Osteomalacia exercises an influence upon marriage and the married state in different ways. A malacosteon pelvis with its pronounced duck-bill shape may render coitus altogether impossible, as the narrowness of the pubic arch forestalls an immissio penis. In extreme cases the prognosis of labour was formerly considered decidedly bad, but to-day, owing to the more favourable prognosis of Cæsarian section, it is less doubtful for both mother and child. The pelvic bones are apt during labour to dilate and yield, like India-rubber, to the pressure of the head, thus facilitating an occasional attempt at version. The pliability of the bones can be readily determined under anæsthesia. Dilatibility has often been observed in pelvic presentations. If the pelvic bones cannot yield, Cæsarian section is the only alternative. But the osteomalacia must be taken in hand at the same time and the ovaries should be removed. The osteomalacia as such will then heal, but the alterations in the shape of the pelvis already existing will not be affected. As only the abnormal softness of the bones disappears, a favourable prognosis of an eventual parturition following the healing of the original osteomalacic process is still farther removed, for the pelvis has now been deprived of the power to further expand.

3. Lateral curvature of the spine. (Scoliosis.)

Heredity.—Lateral curvatures of the spine undoubtedly have a strong bearing on the married state in several directions. Primarily we have to consider, that inherited scoliosis is by no means rare. On the contrary, heredity is an important factor in its etiology. My statistics show an average of 27.5%. *Eulenburg* has found hereditary scoliosis in 25% among 1000 patients. It is not an unusual thing for scoliotic mothers to bring their scoliotic children for treatment or examination. The disease may be inherited from the father as

well. Often enough the disease lasts through several generations. I have seen in my own practice grandmother, mother and daughter affected with it.

Again the parents may be quite normal, but the disease is found in near relatives such as uncle or aunt. At times all the children of a scoliotic mother become equally scoliotic. Parents with kyphotic curvatures of the spine may bring forth children afflicted with or prone to scoliosis. The offspring are born with an hereditary laxity and weakness of the constituent parts of the spinal column, which easily degenerate into curvatures under the influence of secondary causes. Abnormal shapes of the vertebral column constitute in so far an inherited peculiarity, as deviations from the normal antero-posterior curvatures, especially the type of the flat dorsum, favour the formation of scoliosis.

Scoliosis and tuberculosis.—Secondly we must consider the relation of scoliosis to tuberculosis. *Freund* has called attention to the importance of abnormalities in the thorax in the pathogenesis of pulmonary phthisis; *Neider*¹ and *Bachmann*² have on the strength of post-mortem examinations maintained that scolioses of a medium degree predispose to tuberculosis; and still more recently *Mosse*³ and *Kaminer*⁴ have attempted by clinical investigations to establish the question of the frequency of tuberculosis in scoliosis. Contrary to the opinion of *Rokitansky* that apical affections and scoliosis exclude each other, *Mosse* found that scoliosis accompanies pulmonary tuberculosis very often. His observations establish that a simultaneous occurrence of scoliosis in the first and second degrees and of infiltration of the apex is not uncommon in children, and further that the seat of the scoliosis in so far influences the localisation of the tuberculosis, that in dorsal scolioses the apical infiltration is mostly situated on the convex side. *Mosse's* findings have recently been subjected by *Kaminer* to a careful scrutiny with the aid of a large mate-

¹Inaug.-Diss. München, 1886.

²Veränd. der inneren Org. bei hochgrad. Scoliose u. Kyphoscoliose.

³Zeitschrift f. klin. Med. Vol. 41.

⁴Deutsche Aerztezeitung, 1902. No. 20.

rial (3700 women and 500 children). *Kaminer* found that of the scoliotic children only 23% showed a combination of scoliosis and apical infiltration; the other 77% were free from all affection of the apices. (*Mosse* had calculated in his cases 60.2% of scoliosis with apical infiltration.) Most of these children exhibited a scoliosis of the first degree. But no connection between the localisation of the apical infiltration and the convexity of the scoliosis could be ascertained by *Kaminer*. This percentage hardly warrants us to admit of a strong coincidence of scoliosis and apical affections, at least so far as children are concerned.

Different results, however, were obtained from the examination of the women. Here scoliosis was found to be accompanied by apical affections in 76.5% of the cases; and of these again 52.5% presented apical affections on both sides. But no special law governing the localisation of the pulmonary affections could be established. Yet, since *Kaminer* also recognised a connection between scoliosis and tuberculosis, existing at any rate in adult women, *Mosse's* norm may be deemed here applicable.

On the whole I agree with *Kaminer*. My own observations made on thousands of children affected with scoliosis, lead me to the conclusion that pulmonary tuberculosis is an exceedingly rare occurrence in young scoliotic individuals. At any rate, I am of the opinion that scoliosis in itself does not form a predisposition to pulmonary tuberculosis. In examining a large number of scoliotics it is but natural to find among them some tuberculous patients; and, seeing how prevalent tuberculosis is, we can hardly be surprised at that. The comparatively large percentage of *Kaminer* may possibly be due to the fact that he examined mostly patients who were under treatment at a polyclinic for diseases of the chest. I am in a position to follow up the history of my scoliotic patients for many years back, and cannot remember a single case of death from pulmonary tuberculosis.

There is no necessity for prohibiting a marriage on account of a possible danger of pulmonary tuberculosis supervening in a scoliotic patient.

Scoliosis and labour.—Thirdly, we must duly weigh the influence of scoliosis upon labour. Medical practitioners are often confronted by the question whether a scoliotic girl should be permitted to marry. This question springs, as a rule, from the apprehension that the deformity in the spinal column may produce an injurious effect upon the pelvis and subsequently upon the course of an eventual parturition. The answer should be, generally speaking, in the affirmative, although I have seen a large number of my scoliotic patients (even with scoliosis of the third degree) marry and give birth to healthy children who grew up quite straight. For all that, each case should be judged on its merits and particular attention should be paid to the general state of nutrition of the patient, and to the seat of the scoliosis as well as to the nature and degree of the curvature.

Form of pelvis in scoliosis.—I will first describe the changes which the female pelvis undergoes through the development of a scoliotic curvature of the spine. The shape of the pelvis in scoliosis varies, according to the age at which the scoliosis has been acquired. Where the affection has made its appearance at a very early age, i. e., principally in rachitic scoliosis, the asymmetry of the pelvis is often very pronounced, thus constituting the true type of the typical rachitic pelvis.

In the scoliosis which develops at a later age—generally between the 8th and 12th year—in the ordinary habitual scoliosis with right convex dorsal scoliosis and left convex lumbar scoliosis, the sacrum participates, as a rule, in the compensatory lumbar scoliosis. In consequence the pelvis shows an oblique inclination and the left side is weighted more than the right. The ala of the sacrum situated on the side of the concavity, and the neighbouring parts of the innominate bone lying between the ala and the acetabulum become compressed, are narrower than on the opposite side, and the sacral foramina grow smaller. At the same time the sacrum undergoes a rotation. The iliac bone is in its posterior part deeper, since it participates in the depression of the ala of the sacrum, and is displaced upwards, backwards and inwards. The linea terminalis is bent at an angle between the ileo-sacral joint and the

acetabulum and thence runs straight forwards. In severe displacements of the ileum backwards and upwards it runs forwards without such a bend. This displacement of the ileum is the result of the greater acetabular pressure on the side of the lumbar scoliosis which narrows the sacrum and forces the acetabulum inwards and upwards.

The iliac fossa is, through ligamentous traction, placed rather steeply and therefore frontally on the side opposite to the lumbar scoliosis. The tuber ischii of the scoliotic side is turned outwards and forwards by force of the traction of the rotatory muscles of the femur which is dislocated upwards and backwards and not infrequently also curved. The pubic arch is displaced towards the side opposite to the lumbar scoliosis. On the whole the pelvis shows in consequence of the conditions just described an oblique oval form with severe flattening. The oblique diameter on the side of the lumbar scoliosis is the longest. The lower the scoliotic curvature is situated in the lumbar portion of the spine, the more pronounced is the change in the pelvis. If on the other hand the scoliosis is situated high up and the compensatory curvature of the lumbar portion is completed above the sacrum the form of the pelvis remains intact.

If in addition to the lateral curvature of the spinal column there is also present a curvature in its antero-posterior diameter, the malformation is called kyphoscoliosis.

4. Kyphoscoliosis.

Shape of pelvis in kyphoscoliosis.—The most frequent form of kyphoscoliosis is the lumbo-dorsal at the transition from the dorsal to the lumbar vertebral column. The humpback is situated mostly backward and to the left. The shape of the pelvis is in these cases brought about by the static laws acting uniformly in scoliosis and kyphosis. Just as the rachitic character of a pelvis is almost entirely eliminated by kyphosis supervening on rickets, so there is very little left of rickets in a pelvis in which kyphoscoliosis has supervened

on rickets. The sacrum is twisted round its frontal axis, with its base directed backwards and upwards, and the apex forwards. The promontory stands comparatively high. The sacrum is narrow, almost straight, but shows the convex projection of the vertebræ in front of the wings. One half of the sacrum, namely the one which is on the side opposite to that of the kyphoscoliosis, is in the ordinary cases of lumbo-dorsal kyphoscoliosis, which are compensated by a scoliosis and lordosis of the lower lumbar vertebral column towards the opposite side, compressed and narrower; the sacral foramina are rounder and lower. Through the overpressure weighing upon it in the scoliosis of the lumbar segment the respective half of the pelvis is rotated upwards and inwards and receives a smaller inclination than the other half. The lateral bones are twisted round their sagittal axis, so that they diverge widely at the top, while the ischial bones approach each other. The pubic arch is forced towards the opposite side, the tuber ischii is, like in the scoliotic pelvis drawn outwards or inwards. The true conjugate is, as compared with the scoliotic pelvis comparatively longer, sometimes even absolutely longer, than in the normal pelvis. The antero-posterior diameter of the pelvic outlet is diminished, and the shape of the pelvis on the whole resembles somewhat that of a funnel.

Differential diagnosis between scoliosis and Kyphoscoliosis.—The difference between the kyphoscoliotic and the purely scoliotic pelvis consists in this that in pure scoliosis there is a more marked lordosis of the lumbar vertebral column, whereas in kyphoscoliosis there generally develops only a weak scolio-lordosis. The latter pulls the base of the sacrum towards it. In the highest degrees of kyphoscoliosis the sacrum may be drawn by the lower segment of the vertebral column backwards and towards the latter. The wing of the sacrum and the sacral foramina of that side being thus compressed, the body-weight nevertheless rests on the opposite half. In very high degrees of kyphoscoliosis in which the head and that part of the trunk lying above the kyphoscoliosis fall over to one side, they are supported by the rotated pelvic half corresponding to the kyphoscoliosis. At the same time

there ensues a curvature and compression of the pelvic half synonymous with the kyphoscoliosis. If the seat of the kyphoscoliosis is so high up that compensation is already established above the pelvic brim, it is only the kyphosis as such which exerts in that case any influence upon the pelvis.

Diagnosis.—The diagnosis of a scoliotic and kyphoscoliotic pelvis can generally be made by an examination of the whole vertebral column. To determine the degree of the contortion, the distance of the transverse processes between the spinous process and the anterior middle of the body of the vertebræ should be ascertained. Even a slight deviation of the spinous processes will indicate the presence of a serious fault in the bodies of the vertebræ, and also a considerable curvature of the respective pelvic half. *Leopold*¹ recommends for the determination of the degree of kyphoscoliosis the construction of two lines: The first a posterior perpendicular line with the determination of the distance of the protuberance from it in sagittal and frontal directions, and the second a horizontal line through the spinous process of the uppermost sacral vertebræ, projecting upon it the point of the protuberance. With the help of these two lines it is possible to determine the extent of the sagittal and lateral deviation; the greater this deviation, the greater on the other hand the asymmetry of the pelvis.

Such are the pelvic changes due to scoliosis or kyphoscoliosis. Whilst it is true that scoliotic mothers often give birth to healthy children without much trouble, yet, most serious complications for both mother and child must be looked for where pelvic alterations are encountered.

General disturbances in curvature of the spine.—Pregnancy may become the source of grave danger if the spinal curvature is very pronounced, if the woman is anæmic, and particularly if the curvature is accompanied—and this frequently happens—by the disturbances of a displaced heart. The compression of the lungs and the obstruction to the pulmonary circulation often generate in such

¹Das scol. u. kyphoscol. Becken. Leipzig, 1890. D. Arch. f. Gyn. Vol. XVI.

patients dyspnœa and irregular cardiac action. The labour process also may usher in most alarming symptoms, for the dyspnœa is capable of assuming extreme proportions, and a fatal issue may suddenly supervene as the result of cardiac insufficiency and pulmonary œdema.

These serious symptoms demand the earliest attention and often indicate the necessity of instituting artificial premature labour.

At parturition it is wise to accelerate the labour process on account of the inactivity of the normal abdominal pressure, for in the absence of the latter a sudden convulsive action of the respiratory and abdominal muscles may cause paralysis of the heart. Cardiac stimulants, such as tea, brandy, camphor, etc., should in such cases be always kept at hand.

However, the labour may, as already stated, take, in lighter forms of curvature, a perfectly normal course.

Aggravation of scoliosis during pregnancy and the puerperium.—A few words must be said about the evil influence exercised by pregnancy upon a scoliosis, whereby the whole skeletal system is sometimes weakened and its resisting power lessened. Pregnancy is always apt to aggravate scoliotic conditions. I have frequently had occasion to satisfy myself on this point. It is expedient under these circumstances—and the task is not always an easy one—to construct a supporting apparatus for the spinal column capable of being adjusted to the gradually increasing circumference of the body. Most cases of aggravated scoliosis occur, however, during the puerperium, and especially in women who continue lactation for a long time. During the puerperal period the skeleton exhibits a decided tendency to lose its bearing power. There need not necessarily supervene a genuine osteomalacia. Perhaps nothing more than an abnormal yielding propensity on the part of the skeleton may result from an increased elimination of calcium salts. Nevertheless this progressive softening and yielding of the bones is calculated to aggravate the scoliosis. I have seen this repeatedly. It is not always noticeable immediately after labour, but some months later, when the patient is already getting about.

Women who previously were not troubled much with their scoliosis begin to complain of neuralgic pains as it were, produced by a more pronounced overlapping of the ribs and a consequent pressure on the intercostal nerves. If consulted about scoliosis during pregnancy I invariably give the advice to have a proper supporting apparatus made for the back for use immediately after confinement. This apparatus can be constructed so as not to interfere at all with the act of lactation. It acts prophylactically and often saves the patient trouble.

Prognosis of labour.—As regards the prognosis of labour, we may say that parturition takes place in non-rachitic scoliosis, as a rule, spontaneously and easily; in rachitic scoliosis it may also occur spontaneously, though in the severer forms of the disease artificial assistance is very often called for. It is best to proceed expectantly, and if it becomes imperative to accelerate the labour-act, forceps may be tried first. Should the attempt prove unsuccessful, or if the child is dead, craniotomy must be resorted to. If the head has not descended into the pelvis and the os is fully dilated, version is indicated, provided the obstruction is of a moderate degree. If the after-coming head cannot otherwise be extricated, craniotomy must be performed. In extreme cases of curvature, Cæsarian section is the only method of procedure, since symphysiotomy does not offer any prospect of success. On the whole, pelvic presentations are here also more favourable for the mother than head presentations, as on account of the shorter duration of the labour severe bruises from the pressure of the head are excluded. On the other hand pelvic positions are more unfavourable for the child since the extraction of the head generally endures for some time.

5. Spondylitis.

Influence of spondylitis on the pelvis.—In kyphosis produced by caries of the vertebræ, the pelvis undergoes various changes, which are governed by the spondylitic

kyphosis being situated low down and the vertebræ, affected by it, forming part of the configuration of the pelvis, or by the sacrum participating more or less in the compensatory lordosis of a gibbus situated in the upper part of the vertebral column. If the seat of the gibbus be in the upper dorsal portion, the pelvis remains unimpaired. If the disease is located farther down, i. e., in the lower dorsal portion of the spine or in the lumbar region, the centre of gravity of the body is thrown so much to the fore, that, in order to maintain an upright posture, the trunk must needs lean further back. In this way the physiological lordosis becomes more accentuated, and the pelvic inclination is reduced; the lower portion of the vertebral column is pushed backwards, the sacrum rotates round its frontal axis, the promontory recedes, the apex of the sacrum is tilted forwards, the innominate bones diverge at the top, whilst their lower portions approximate.

If situated very low down, i. e., in the lower lumbar or the upper sacral vertebræ, the upper part of the gibbus falls like a roof over the pelvic brim.

Influence on pregnancy.—In the case of spondylitis the first point to ascertain is, whether it has healed or not. In a tuberculous disease of the vertebræ not yet healed up, pregnancy would, like in all other tuberculous affections, eventually lead to untoward consequences. If, however, the spondylitis has healed up and the contraction of the pelvis is inconsiderable, there is no ground for objecting to marriage. Through the narrowing of the abdominal space in pregnancy a pendulous abdomen is frequently formed. This as well as the contracted form of the abdominal space must be held accountable for the oft-occurring occipito-posterior positions at labour. Similarly in low-seated gibbus the upper part which hangs, so to speak, roof-like over the pelvic inlet, occasions retroversion and retroflexion of the uterus. To this reference has already been made when discussing the general prognosis of contracted pelvis.

Prognosis.—The prognosis of labour depends upon the eventual contraction of the pelvic outlet. In high-seated kyphosis the inlet of the pelvis is widened, without material diminu-

tion of the outlet. In strongly marked pelvic contraction the prognosis is unfavourable for both mother and child unless Cæsarian section is performed.

In severe cases Cæsarian section has hitherto been recorded 25 times, and symphysiotomy 4 times. Where the oblique diameter is diminished to below 6 cm. only the former can claim consideration. In very low situated lumbo-sacral or sacral spondylitis the so-called pelvis obtecta is formed. It presents the same prognostical conditions as the spondylitic pelvis.

6. *Spondylolisthesis.*

Etiology.—The spondylolisthetic pelvis is caused by the dislocation of the 5th lumbar vertebra. Proportionately with the degree of dislocation, a narrowing of the pelvis ensues in the antero-posterior diameter. As a guide for this contraction we cannot, as under ordinary circumstances, utilise the true conjugate, but rather a line of junction from the most projecting 3d or 4th lumbar vertebra to the symphysis. According to the more recent researches of *Neugebauer*¹ the spondylolisthesis does not consist of a peculiar sliding or luxation of the vertebra, but in a lengthening of the interarticular portion.

The vertebræ develop from three osseous centres, i. e., from an anterior centre for the body, roots of the arch and the superior articular process from a posterior centre for the inferior articular process, and from a middle centre for the transverse process and the costal process. Where the fusion takes place between the anterior and the posterior osseous nuclei, the interarticular portion is afterwards situated. If this fusion fails, the preliminary causation of the spondylolisthesis is created, i. e., the so-called spondylolisthesis interarticularis. Instead of the bony union a pseudarthrosis or syndesmosis exists. Through gradual or sudden forcing, this articulation is stretched or torn, and the spondylolisthesis is thus produced. In most cases of this rather rare form of disease of the bones,

¹Zur Entwicklungsgesch. d. spondylol. Beckens, etc. Dorpat 1882. D. Spondylol. et spondylizème. Paris, 1892.

the stretching of the syndesmosis happens after repeated pregnancies, as the ligaments whose resisting power is already impaired, become softer and more relaxed during pregnancy and ever more extensive by force of the steadily increasing weight. But instead of this gradual, there may also arise a sudden formation as the consequence of an injury.

Diagnosis.—This can readily be made from the appearance of the patient alone. The trunk and particularly the lumbar portion of it, is shortened; the thorax is sunk into the false pelvis; there is a marked lumbar lordosis—the base of the sacrum lies free—great width about the hips and widely diverging posterior-superior spines of the iliac bones are noticeable; the pelvic inclination is gone. In mild cases the disease may be mistaken for lumbo-sacral spondylitis. In the first instance, however, the history and above all the dislocation of the 5th lumbar vertebra will prove decisive; in the latter, the more marked S-shaped curvature of the iliac bone. Furthermore, the posterior borders of the iliac bones form a more acute angle than in spondylitis; and again, a spondylitic gibbus remains unaltered with a change in position, whilst the bend in spondylolisthesis flattens when the body inclines forwards or is in the knee-elbow position.

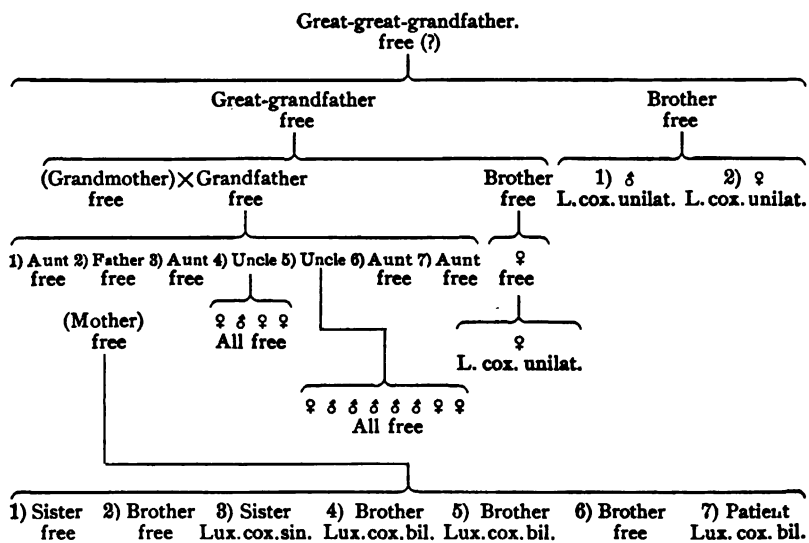
Prognosis.—The prognosis may be considered unfavourable if the narrowness is of a high degree, in fact worse than in a rachitic pelvis with the same conjugate. The narrowness in the spondylolisthetic pelvis begins already in the false pelvis with the lordotic curvature of the spine, and does not stop at the narrowest point, but continues along the pelvic cavity. Moreover the pelvic outlet is also contracted.

With a conjugata pseudovera (from the most projecting lumbar vertebra to the symphysis) of more than 9 cm. a normal labour may still be expected. With a conjugate between 8 and 9 cm. the labour cannot take place without vigorous assistance. If the conjugate is between 7 and 8 cm. long, it is best to induce artificial premature labour between the 32d and 36th week; if below $7\frac{1}{2}$ cm. perforation or Cæsarian section is indicated; whilst with a conjugate of less than 6 cm. Cæsarian section only is feasible.

7. Congenital dislocations of the hip.

Heredity.—In speaking of congenital dislocations of the hip-joint from the standpoint of marriage and pregnancy, we must in the first instance consider the possibility of an hereditary transmission which in this particular disease is certainly very great. Congenital luxations frequently repeat in the same family. The expression "dislocation-families" seems almost justified. I take occasion to quote here a statistical table by *Narath*.¹ Out of 100 cases of which *Narath* could obtain full particulars, not less than 40 children could show at least one second case among the relatives. Either the father or the mother was affected with a luxation, or the abnormality was present among the blood-relations of the father or of the mother, and sometimes of both parents. The luxation may be inherited just as easily by the male as by the female line. It is even possible to establish regular genealogical trees of such "luxation-families." I reproduce here one such observation by *Narath*.

FAMILY-TREE OF A PATIENT 5½ YEARS OLD, AFFECTED WITH LUXATIO COXÆ BILATERALS.



¹Beitr. z. Ther. d. Lux. coxæ cong. Vienna and Leipzig, 1903.

There remains yet to be added that the mother of the patient had normal hip-joints, as was also the case with her many blood-relations who numbered about 100 people, and who happened to be all assembled once upon some family occasion. It also is worthy of notice that the woman marked with X is married to a man of the same family, consanguineously related in the 3d and 4th degree with the grandfather.

The dislocation may, however, occur also where the parents are perfectly healthy. It may be present in all the offspring or in alternate cases or at irregular intervals. Some otherwise healthy parents have only children with luxations. It is absolutely impossible in any given case to predict whether a mother with a dislocation will bring forth similarly afflicted or normal children. Many of my patients with dislocation, some even with double dislocation, have married and given birth to perfectly normal children, so that I should never refuse my consent to a marriage because of a possible hereditary transmission. Besides, congenital dislocation of the hip is at the present day a complaint which is open to complete cure in by far the larger majority of cases, and therefore need no longer be dreaded.

Possible disturbances at parturition are, generally speaking, no ground for withholding the consent to a marriage in one-sided or even in double-sided dislocations of the hip. The history of the dislocated pelvis in relation to its influence upon childbirth is interesting. *Dupuytren* concluded from his observations that the dislocated pelvis is perfectly suitable for pregnancy and labour. Later authors some of whom have contributed most valuable communications on the subject, such as *Sedillot*, *Vrolik*, sen., *Rokitansky*,¹ *Ditzmann*,² *Gurlt*,³ *Hubert*,⁴ *Lenoir*,⁵ *Fabori*,⁶ pay also but little attention to the obstetrical

¹Handbuch der patholog. Anatomie.

²Schrägovalles Becken, etc., bei einseit. Coxalgie 1853.

³Ueber einige Missgestaltungen d. menschl. Beckens 1854.

⁴Mécanisme du développement du bassin, etc. Brüssel 1856.

⁵Déformation du bassin, etc. 1859-60.

⁶Das schräg-ovale Becken mit besonderer Berücksichtigung seiner Entstehung im Gefolge einseitiger Coxitis. Kiel 1853.

problem connected with the matter. They are satisfied that a dislocated pelvis does not as a rule cause trouble at parturition.

The first to collect material of his own on this point, and to call attention to the complications which may arise during labour, was *Guéniot*.¹

We shall return to the experiences of this author later on. For the present we will consider briefly the changes that take place in the pelvis in consequence of dislocation of the hip-joint.

Pelvis in one-sided dislocation.—In one-sided or simple dislocation we observe that the pelvis has assumed an asymmetrical form; the diseased side is entirely atrophied. *Guérin* says that the affected side has undergone a laceration, namely from before backwards, from below upwards, and from inside outwards. The iliac bone shows a steeper position, while the ischium has experienced a rotation outwards.

Pelvis in double dislocation.—In double luxation the pelvis though somewhat symmetrical shows atrophy, and the deformities described in one-sided dislocation are present in both hips; there is a steeper position of both iliac fossæ. The pelvic inlet is somewhat diminished in either diameter. The sacrum has a pronounced forward curve. A lengthening of the horizontal pubic rami has taken place; the pubic arch is flattened. The tubera ischii are markedly rotated outwards, so that the oblique diameter of the pelvic outlet is extended, while the direct diameter is diminished. Further, a conspicuous slenderness of the bones is caused by the atrophy; and an abnormal inclination of the pelvis in its totality is produced by the abnormally strong curvature of the lumbar vertebral column.

Guéniot observed that a large number of dislocated pelvises contained bony ridges and sharp edges at the anterior border of the entrance into the true pelvis; he also mentions cases in which great difficulties arose at the labour in consequence of these ridges. To these we shall return later.

¹Des Luxations coxo-fémorales soit congenitales soit spontanées au point de vue des accouchements. Paris 1869.

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In addition to these pelvic changes we must also consider the adducted position of the femora associated with double dislocation of the hip.

If we take a general survey of the influence of dislocation of the hip on pregnancy and labour, we may point out that in the great majority of cases the labour undoubtedly takes place at the normal period without difficulty.

Influence on the pregnancy.—But deviations from the normal course of pregnancy and labour do occur, and are by no means rare; for we find that not infrequently an oblique position of the uterus and a pendulous abdomen develop as the result of the great inclination of the pelvis. Thus *Fen* records a case in which the abdomen of the patient when she walked, touched the ground. The swaying of the patients, in very pronounced cases may also have a damaging influence upon the course of the pregnancy. In consequence of this waddling gait, the pregnant woman may lose her balance, and suffer contusions of the abdomen and uterus; it may even bring about premature expulsion of the fœtus and serious injuries to mother and child. The complications observed now and then in pregnant women with dislocation of the hips, such as hæmorrhages, vomiting, etc., need not necessarily be ascribed to the dislocation.

Prognosis of labour.—In considering the labour itself, we find that owing to the abnormal pelvic inclination with severe lumbar lordosis in double dislocation, owing to the lateral inclination of the pelvis with lumbar scoliosis in one-sided dislocation and also owing to the asymmetry of the two pelvic halves, abnormal positions of the fœtus may ensue capable of causing difficulties at parturition. As a rule the labour runs a normal course, and it would even appear that in some of these cases the confinements are particularly easy and rapid. Should there be malposition of the fœtus, artificial help will occasionally be called for, but on the whole interference is certainly not oftener indicated in dislocated pelvis than under normal circumstances.

From what has been said, nobody will ever think of prohibiting the marriage of a woman with typical dislocation of

the hips, but an eventual pregnancy will have to be watched with care, knowing what trouble lies in store for mother or child. It is wise to recommend such pregnant women, especially if they manifest a very pronounced waddling gait, to abstain from walking about too much and thus prevent the possibility of traumatic injury to the uterus and fœtus.

Position of adduction of the femora.—Finally, a few words are due to the position of adduction of the lower extremities in double dislocation of the hip. This position of adduction is frequently so intense that the legs are almost crossed and anything like a sufficient abduction is rendered impossible. In this condition coitus in the normal manner is excluded. Such patients must not be allowed to marry until a proper separation of the thighs has been facilitated by tenotomy of the shortened adductors. I have by this means enabled quite a number of patients to get married. Also in women with double dislocation of the hip who have already borne children, tenotomy of the adductors may yet be performed to advantage. I operated thus successfully upon a lady who had been normally confined of three children. After the third accouchement the position of adduction of both legs increased to such an extent that the patient could no longer fulfil her conjugal duties. I reduced this position of adduction by operation with the result that she has since given birth without any trouble to 5 more healthy children.

8. *Morbus coxæ.*

Form of pelvis.—The coxalgic pelvis resembles that in unilateral congenital dislocation of the hip. It is generally an obliquely contracted pelvis with more or less markedly pronounced flattening of the linea arcuata and an accompanying contraction of the pelvis on the healthy side, and is due to the overweighting of the healthy leg. It is the more pronounced, the earlier morbus coxæ sets in. As far as the labour is concerned another element besides the contracted pelvis claims our attention, viz.: a further material increase in the

contraction resulting from the flexed contracture of the diseased joint.

The question whether patients who have had morbus coxæ ought to be permitted to marry is decidedly of practical importance.

Consent to marriage.—Marriage is beyond doubt permissible if the morbus coxæ was of a non-tuberculous nature. Of course it may be taken for granted that active diseases of the hip will hardly ever come before us in connection with the subject of marriage, but rather processes which have run their course for some time and which have left behind more or less extensive contracture or ankylosis of the formerly affected hip-joint. Now should the coxitis have arisen on a rheumatic basis or upon the basis of an osteomyelitis, and if the joint has healed with a middle position, there can be no reason why the marriage should be interdicted, even if the joint is ankylosed. Moreover, even in cases of a healed tuberculous morbus coxæ marriage may be allowed if the disease is not associated with a concomitant tuberculosis of the internal organs, a condition present in about 23% of all cases. If, however, internal tuberculosis is also diagnosed, such general recommendations must be adopted as are laid down in the chapter of this book dealing with the subject of tuberculosis. (See article by *Kaminer*.) With reference to the healed circumscribed tuberculous coxitis we must weigh here mainly two points, first the coxalgic pelvis already described above, and secondly, the more or less pronounced flexed and adducted contracture of the diseased leg, which as a rule is present.

Prognosis.—The coxalgic pelvis presents with regard to labour about the same chances as the scoliotic pelvis. The prognosis depends more on the roominess than the obliquity of the pelvis. I know quite a number of women who, notwithstanding a coxalgic pelvis of a pronounced type and in spite of by no means inconsiderable contracture at the hip with the leg in flexion and adduction, have given birth without much difficulty to one or more healthy children. In other cases, again, artificial assistance becomes at times necessary, just the same as in cases of a normal pelvis.

A coxalgic pelvis does therefore not necessarily justify a prohibition of marriage. That which makes the parents as a rule shrink from giving their consent, is the false position of the leg. In point of fact, normal coitus becomes impracticable where the one leg is markedly in a position of adduction—a condition generally present when the *morbus coxæ* has run its course. However, those patients who marry, know how to help themselves. I have been told by them or by their husbands that they practise sexual intercourse in the lateral position. The labour also takes place in the lateral position.¹ Other patients burdened in addition to adducted contracture with a strong flexed contracture of the legs and consequently an increased pelvic inclination, accomplish coitus in the abdominal position, because, on account of the greater inclination of the pelvis, the introitus vaginæ is situated much further back. Coitus thus exercised, though abnormal, yet achieves its purpose and the patients do not suffer very much from an ensuing pregnancy, for, if the ankylosis in the hip-joint is moderately firm, the leg—the shortness of which can easily be corrected by a high boot—gives a sufficiently strong support to the body.

Marriage may therefore be permitted under these circumstances, but we should never forget that it is quite within easy reach to render normal intercourse possible by correcting the contracture of the leg through a simple sub-trochanteric osteotomy performed before the consummation of the marriage. All that is necessary afterwards is to keep the leg properly in a sufficient state of adduction, to correct any subsequent flexion and along with it the increased pelvic inclination. With the latter correction the introitus vaginæ will naturally return to its normal situation. I cannot forget how grateful a patient of this description was to me when, having been afflicted with coxitis from a very early age, she could for the first time in

Translator's note: That the author refers here to delivery in the lateral position as something unusual is due to the circumstance that the dorsal is on the continent of Europe the usual position at labour. I believe also that in America the dorsal position is more generally adopted.

her life after the operation touch her "sex," as she expresses herself, from the front.

That patients with such deformities are particularly prone to perverse gratification of the sexual desire, does not agree with my experience; on the contrary they take a special pride in being able to prove to their husbands that in spite of their deformity they are yet capable of performing their duty and of becoming happy mothers.

Form of pelvis and prognosis in other diseases which exclude permanently or for a long time the use of one leg.—Here we may say that, as regards the form of the pelvis and parturition, conditions, similar to those in morbus coxæ prevail also where patients have not had the use of one leg either permanently or at any rate for some time owing to an affection of the knee-joint, or to infantile paralysis, or to the amputation of an extremity. The one-sided pressure of the healthy thigh will gradually bring about a narrowing of the unimpaired half of the pelvis, without, however, affecting the normal course of labour.

But inflammation and ankylosis of both hips lead to the formation of an ankylotic-oblique, contracted pelvis, unfit for normal labour. Cæsarian section is the only alternative even where the child has already succumbed.

9. Tumours of the bones.

Division.—Under this heading belong those tumours which attack the pelvic bones, such as exostosis, enchondroma, fibroma, and sarcoma, the most frequent of which is exostosis. A well-known form is the so-called "prickly pelvis" (pelvis spinosa) due to an ossification of the tendons, ligaments and fascial attachments. The tendons of the psoas minor and the origin of the iliac fascia are particularly liable to become ossified causing a bony ridge to project into the pelvic cavity at the junction of the pubis with the iliac bones.

Notwithstanding these exostoses being in themselves but benign formations they are yet capable of giving rise to unpleasant and even insurmountable disturbances in the labour proc-

ess. *Bessel-Hagen*¹ rightly insists that all women and girls who in any way exhibit outward signs of exostosis should be subjected to a thorough examination of the pelvis.

While fibromata are but seldom observed in the pelvic bones, there is a plentiful crop of enchondromata and osteosarcomata. The latter generally originate on the posterior pelvic wall. The osteosarcomata offer a very bad prognosis, as they may interfere with and obstruct the labour from purely mechanical causes.

In the presence of pelvic tumours our attention will therefore be directed, first to the nature of the tumour, and secondly to the mechanical deterioration of the pelvic cavity.

Prognosis.—Where the malignancy of a new growth is established, marriage must be denied. In the case of a mere mechanical obstruction the question arises whether a surgical removal of the obstructing tumour lies within the range of possibilities. Otherwise our decision must be governed by the degree of contraction. In other words, we must ascertain whether the obstruction is so small that the prospects of a labour at the normal end of pregnancy are favourable. If not, the only remedy at hand is to have recourse to the armamentarium of obstetrical operations.

10. Fractures.

Here we are engaged with fractures of the pelvis only. On account of the great firmness of the pelvic ring, those of the pelvis form only a very small proportion of the fractures in general. Statistics also show that it is principally men who are subject to this injury. It is therefore not likely that the medical man would be often consulted with regard to an eventual marriage of persons thus injured.

Of course we are now concerned solely with reduced fractures. We know through *Drexler* that more than half the number of pelvic fractures heal up, though generally with some displacement. It is the degree of the latter which must guide

¹Handbuch d. prakt. Chirurgie. Vol. II.

our judgment as to whether the pelvis is suitable for the happy accomplishment of a pregnancy. Severe dislocations arising principally from fractures of the pelvic ring, are capable of leading to most serious difficulties. In recent years legislation has enacted stricter regulations bearing on the after-effects of accidental injuries, and the question of compensation to female victims on account of an impairment of their propagative faculty is already engaging the attention of serious minds. Thus *Kaufmann*¹ reports the case of a girl, 19 years old, who had received in a railway accident a severe fracture of the pelvic ring which left a permanent obstruction to labour. In view of that physical inability she obtained a substantial yearly allowance.

Considerable dislocations or extensive masses of callus projecting into the pelvic cavity naturally form an absolute impediment to marriage and pregnancy. A careful external and internal examination aided eventually by Roentgen-radiography will establish an exact diagnosis and facilitate an opinion on the prognosis of possible pregnancies.

11. Developmental anomalies of the pelvis.

The generally contracted pelvis.—Of the anomalies of the parturient canal due to developmental disturbances, the generally contracted pelvis consequent upon an excessive smallness of the skeleton as a whole represents the mildest form. Prognostically speaking it has the same significance as the generally contracted pelvis.

Infantile pelvis.—If the original process ran on normal lines, but the development of the child during and after the foetal period—though at first proceeding regularly—has come to a standstill, the so-called “infantile pelvis” is formed. The sacrum lies backwards between the two innominate bones, the promontory is high and projects but little, the pelvic inlet appears round or elongated. But not only an arrest of or a disturbance in its development, but also rickets, may be the

¹Handbuch der Unfallsverletzungen.

cause of a generally contracted pelvis. (See *Senator's* article.) The same alteration in the form of the pelvis may be due to chondro-dystrophy as well. So far as the prognosis is concerned they are all of the same value.

The masculine pelvis.—In contrast to the infantile is the masculine pelvis, by the Germans called "Assimilations-becken." Owing to an abnormal disposition the fifth lumbar, or the first coccygeal vertebra comes to form part of the sacrum, thus bringing up the promontory very high. The pelvis in consequence assumes a funnel-shaped appearance which gives it a resemblance to the male pelvis.

The dwarf-pelvis.—In the dwarf-pelvis an arrest of the development of the bones has taken place at an early stage, showing in consequence a severe diminution in all the diameters. The conjugate may be reduced to 6 cm. or even to less. The prognosis naturally will be influenced by this latter factor.

The funnel-shaped pelvis.—It possesses all the qualities of the generally and uniformly contracted pelvis and those of the dwarf-pelvis combined, and is further distinguished by a considerable length of the sacrum and by a great height of the lateral pelvic walls. It is equally an anomaly of predisposition or growth.

In the milder forms the prognosis is favourable, but in the severer cases apprehensive for both mother and child. The continuous pressure of the head easily provokes gangrene of the pelvic soft parts and gives rise to many evils, such as fistulæ, caries of the pubic rami, etc. In almost all the severer cases artificial interference is necessary. If serious complications arose in previous confinements, artificial premature labour should be instituted at an early period.

Very little is known as to the origin of the simple flat pelvis, but prognostically it must be classed with the rachitic flat pelvis.

Separation of symphysis.—In congenital split symphysis the innominate bones diverge widely from one another, the sacrum is pressed in deeply between them, but labour is not very materially interfered with.

12. Chronic articular and muscular rheumatism.

Though there is apparently but little connection between chronic articular and muscular rheumatism and the subject of marriage, it does happen occasionally that a chronic articular rheumatism acquired in early years so impairs the free movement of the extremities that marriage must remain out of the question. I remember a case of chronic ankylosed inflammation of the spinal column in which I thought it expedient to withhold my consent to marriage. In addition to the rigidity of the spinal column there was an almost purely diaphragmatic form of respiration, in which the chest took hardly any part so that in the event of pregnancy the life of the girl would surely have been jeopardised. Heredity also, no doubt, is a potent factor in primary progressive chronic articular rheumatism. Generally speaking it is an exception if both parents and offspring are attacked by this disease; but it does happen. *Charcot* and *Trastour* have traced heredity in 2%, *Bannatyne* in 5%, *Garrod* in 12.8% of chronic non-gouty articular rheumatism. *Pribram* found among 57 cases 3 such similar affections in parents and children. Genuine gout is frequently classed among the congenital maladies. *Garrod* regards gout as hereditary in 43% of his cases. Nevertheless, the medical man will hardly ever think of prohibiting the marriage of a gouty patient, since gout is rather looked upon as a "healthy disease."

XVIII

Diseases of the Eyes in Relation to Marriage, with especial Regard to Heredity

XVIII

DISEASES OF THE EYES IN RELATION TO MARRIAGE, WITH ESPECIAL REGARD TO HEREDITY

By **G. Abelsdorff, M.D.** (Berlin)

The relations between conditions of ill-health and the married state as regards the eye may exhibit various manifestations. It is, of course, possible for husband or wife if suffering from a contagious eye-disease, to infect the other, should the laws of hygienic cleanliness be disregarded, for instance, where they both use the same washing-utensils. In addition to this occasional possibility, which is the natural outcome of the closely intimate relations of married life, pregnancy and child-birth play an important part. The retinitis albuminurica gravidarum may endanger vision to such an extent that in some cases the retinitis alone must form, in order that blindness may be averted, an indication for the artificial interruption of pregnancy, a proceeding which we know from experience often influences favourably the affection of the retina. Similarly, where the eye-sight has already suffered, it is necessary to take cognisance of the great inclination of the retinitis gravidarum to recur with repeated pregnancies, and to grant a limited justification to the adoption of measures calculated to prevent conception in individual cases.

Excessive loss of blood during the labour process may endanger the visual organ. Hæmorrhage in miscarriages also is apt to cause disturbances of vision, which may pass away but which may also terminate with atrophy of the optic nerve.

During the puerperium and lactation there occurs, apart from metastatic ophthalmia and septic retinitis accompanying puerperal fever, a primary optic neuritis with, as a rule, favour-

able termination necessitating, nevertheless, the weaning of the child.

The eyes of the child are also liable to be endangered by the labour process, either through infection or injury. The secretions from the maternal genitals which come in contact with the eyelids of the child may, when the latter opens its eyes, enter the conjunctival sac and infect it with micro-organisms. Of these micro-organisms the most dangerous is the gonococcus, because the gonorrhœal inflammation of the eyes of newly-born children (blenorrhœa neonatorum) may, if not treated soon and energetically, lead to the destruction of the cornea. It is a lamentable fact that at least 10% of the blind have lost their eye-sight in this way. Successful results are obtained not only by proper treatment with nitrate and other preparations of silver, but also by the prophylactic measures recommended by *Credé*, viz.: introduction of a drop of a 2% solution of nitrate of silver into the eyeball immediately after the birth of the child and the cleansing of its eyes (but not with water from the bath!). The eyes must, of course, be guarded afterwards as well to prevent mischief through contact with an infectious lochial discharge.

Not every inflammation of the eyes in newly-born infants is necessarily of a gonorrhœal nature; proofs are accumulating that pneumococci and streptococci also play a part as exciting agents; but in the inflammations produced by these bacteria the cornea is not affected.

Injuries in the labour-process, which must naturally occur oftener where forceps or other artificial assistance is employed, are liable to involve the eyelids, the eyeball, its muscles and nerves. Comparatively often retinal hæmorrhages are seen in the eyes of newly-born children, even after spontaneous labours. These, though they may be completely re-absorbed, supply a possible material explanation of weak sight at a later period of life notwithstanding an apparently normal condition of the eyes (amblyopia congenita).

In addition to these injurious influences operative at the time of parturition, the most important factors in the causation of eye-diseases will be found in the morbid elements already

existing previously to the birth of the child and transmitted by heredity from the parents to their offspring.

Hereditary diseases of the eye.

Under this heading we shall consider only those diseases which are hereditary in the strict sense of the word, that is those which may be traced back to a condition existing at the moment of impregnation i. e. to the constitution of the sperm-cell or ovum-cell as the carrier of hereditary qualities. It is, however, not always possible, as for instance where such affections are limited to one or two members of a large family, to dismiss the suspicion altogether that external influences may have had some effect upon the developing embryo, and that the disease is after all an acquired foetal affection.

We will not concern ourselves here with those general or organic diseases which rest upon an hereditary basis and which attack occasionally the eyes as well (syphilis, gout, diabetes mellitus, etc.). We will rather consider the question to what extent the probability of having inherited a disease which is limited exclusively to the eyes, acts in favour or against the contraction of marriage. Everybody understands more or less the importance of unimpaired eye-sight for earning a livelihood and for enjoying one's life; fortunately, however, the number of hereditary eye-diseases likely to lead to incurable blindness is so small, that in view of the proverbial blindness of love very few people, indeed, will be deterred from venturing upon matrimony because of a fear that their children might be affected with a weakness of the eye-sight. Though other considerations preponderate, as a rule, in the formation of a decision, it is, nevertheless, possible for the physician to exert his beneficial power in a negative sense by allaying unfounded fears, by explaining in some cases what to the lay mind will appear paradoxical, viz.: that it is not the diseased but the healthy person belonging to a predisposed family that harbours the predisposition to hereditary transmission (for instance in hereditary affection of the optic nerve). He can

improve matters greatly by inducing individuals hereditarily affected, to devote particular attention to the hygiene of the eyes, and so on.

Beyond this practical importance, the hereditary diseases of the eye possess a high theoretical value which more than justifies their special consideration in this place. *Darwin*¹ was in my opinion right when, notwithstanding his wonderful intimate acquaintance with all the other details, he confined himself to the one organ, the eye and its accessory parts, whilst discussing the inherited human diseases. The ordinary difficulties which one meets in practice so far as disease in general is concerned, do not exist in the affections of the eye, for the simultaneous occurrence of rare eye-diseases in several members of a family enables us to eliminate almost entirely the element of accident. A second circumstance facilitating an opinion is that the majority of hereditary eye-diseases are localised in certain definite parts of the organ (lens, retina, etc.). The interpretation of incontrovertible observations places therefore a particularly reliable material of facts at our disposal for the study of hereditary diseases and the manner of their transmission. An example will be found in the atavistic type observed in various affections of the eyes, as f. i. night-blindness, colour-blindness, affections of the optic nerve and nystagmus, in which the continuity of the generations is interrupted, like in hæmophilia, so that the malady of the grandfather appears in the son and in the male grandchildren, missing the daughters but attacking the sons.

So as to remain within the limits of the object sketched out for this work, I omit here a detailed description of the diseases in question and confine myself to a general survey of the hereditary diseases of the eye, only in so far as they relate to the subject in view. To save the reader a detailed reference to the numerous cases known in literature, I will simply mention a few pregnant examples. (A very comprehensive selection of the literature on the subject will be found in *Groenouw*: "Beziehungen der Allgemeinleiden und Organer-

¹*Darwin*, The Variations of Animals and Plants in Domestication.

krankungen zu Veraenderungen und Krankheiten des Sehorgans; *Graefe-Saemisch*, Handbuch der ges. Augenheilkunde. New edition.)

I. Colour, form and refraction of the eye.

A fact known even to the layman is that the colour of the eye, in other words, the consistence and quantity of the pigment in the iris, is hereditary to such an extent that it establishes a racial characteristic. Albinos, whose irises show a reddish translucence by virtue of the absence of pigment, form an exception as they do not generally transmit direct to their descendants this pigmentlessness which is accompanied by photophobia and usually also by diminished acuteness of vision; in their case the abnormality shows its nature as a family affection only by being present in several brothers or sisters.

The shape of the eye no less than its colour is influenced by heredity and refraction in its turn depends upon the form of the eye. In a recently published communication *Hertel*¹ informs us upon the strength of a material—which, though limited in numbers, is an excellent one for the reason that the children as well as their parents (father or mother) were examined—that the refraction of the children corresponded with that of their parents:

In hypermetropia in 69%,
In myopia in 65.7%,
In emmetropia in 48%.

The amount of the material found in literature is too meagre to enable us to allow of definite deductions as to the hereditary character of pronounced astigmatism, though it is theoretically speaking by far the easiest to deal with; in myopia the circumstances are reversed. Notwithstanding the large number of available statistics the question is very difficult to decide because of the frequency of myopia. Myopia is not

¹Ueber Myopie, v. *Gräfe's Arch. f. Ophth.* 56, 2, p. 326. 1903.

congenital, on the contrary almost all newly-born children are hypermetropic; it can therefore be only a question of inherited predisposition. But in spite of the want of unanimity of opinion on the origin of myopia there is a general consensus with regard to the favouring influence of close work upon its development. It is therefore quite possible that the same external injuries, such as close work, have produced myopia both in the parents and in the children. Notwithstanding this possibility it cannot be denied even after a critical examination of the material, that heredity constitutes a co-operating factor; the observations made by *Schmidt Rimpler*¹ on a large number of school-children do not admit of any other interpretation. He established that the higher the degree of myopia, the higher also the percentage of those whose parents were likewise myopic; for instance in myopia of 1.0-6.0 dioptries the heredity amounted to 48.3%, in myopia of more than 6 Ds. to 64.8%. *Stilling* and *Laqueur* are inclined in cases of severe myopia to attribute a considerable rôle to consanguinity as well. At all events, the children of myopic parents are far more inclined to become myopic under the injurious influence of intensive close work, than are the children of emmetropic or hypermetropic parents. In their case particularly those hygienic measures should be carried out scrupulously which reduce to a minimum the injuries caused by such close work as is unavoidable (good light, sufficient intervals of rest, etc.).

Apart from these changes in the form of the eye, which affect more or less the whole of the eye-ball, there are quite a number of hereditary diseases of the eye which attack only a definite circumscribed portion of the organ or its tissues.

II. Cornea.

There is observed at times in eye-balls otherwise normally constituted, a congenital opaqueness of both corneæ, either

¹Zur Frage der Schulmyopie, v. *Gräfe's Arch. f. Ophth.* 35, 4, 1889, p. 276.

total or partial, which may, however, clear up again, more or less, in the course of time. It is not a condition which can be described as hereditary in the strict sense of the word, but it comes into evidence simultaneously as the result of a fœtal inflammation in several children of the same family, although no lesion can be detected in the parents.

III. Iris.

The iris may be absent to a greater or less extent (aniridia congenita, irideremia). This defect is present as a rule in both eyes. Apart from the striking appearance of the persons thus affected and the disturbance in the vision arising from the glare, there are frequently also other complications, for instance, weak sight, nystagmus, opacity of the lens, etc. The influence of heredity is in this anomaly particularly marked. Daughters as well as sons are liable to inherit the disease either from the father or from the mother. A very characteristic observation by *Gutbier* (communicated by *Beger*, *Zeitschr. für Ophthalmol.* Vol. 5, 1837) on the absence of the iris in 10 cases among 4 generations may serve as an illustration.

Of 8 brothers one had irideremia, of the 8 children of the latter 3 boys presented the same defect. The oldest of the sons had 4 boys of whom 3 manifested complete and one partial irideremia. The children of the latter had normal eyes. Of the other 3 brothers of the third generation the second brother also had a daughter without any iris, and a healthy son. The third brother also had a daughter with the same anomaly.

It is not always easy to differentiate sharply between partial absence of the iris and coloboma; for which reason family-histories are known in literature in which some of the members had irideremia and others coloboma of the iris. Not infrequently the coloboma of the iris is associated with a coloboma of the choroid; and even if the eye-sight is not much disturbed, such eyes in which the cleft extends to the posterior portion, are inclined to chronic inflammatory conditions.

Heredity shows itself sometimes in this way that several brothers and sisters, or parents and children, are equally affected with abnormal clefts. Though heredity does not play here such an important part as an irideremia it is, nevertheless, remarkable that *E. v. Hippel*¹ has succeeded recently in demonstrating the influence of heredity on the formation of colobomata in rabbits. He was able by mating normal female animals with a male rabbit affected with a typical coloboma below the entrance of the optic nerve, to produce a brood of which 18% had colobomata.¹

IV. Crystalline lens.

In the two large groups into which the diseases of the lens may be classified, viz.: changes of position and opacities, hereditary forms have been established.

Ectopia lentis.—Congenital malposition which always produces disordered vision, and occasionally attacks of glaucoma, may pass through several generations without distinction of sex. *Becker*² records f. i. cases of ectopia of the lens in a brother, a sister and the children of the latter, a boy and a girl.

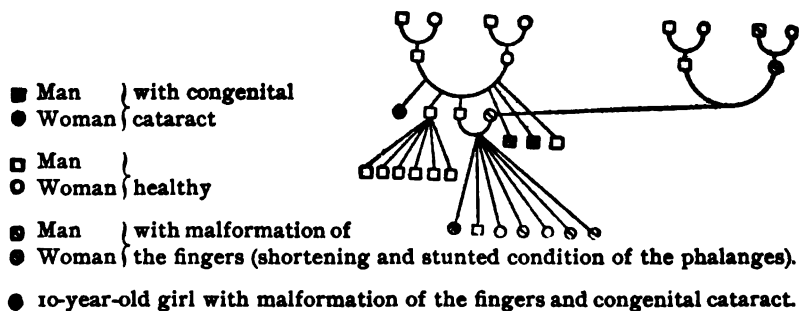
Cataract.—Every variation in the structure of the lens produces, by virtue of the latter being a transparent body, an opacity (cataract) which is either congenital or acquired. Both kinds can be hereditary, although heredity does not often come into question as an etiological factor. Every opacity of the lens is, moreover, either primary or secondary. In regard to the primary we do not as yet know of any cause lying outside the lens, though later investigation may succeed in proving it to be a secondary cataract, while secondary cataracts emanate either from diseases of other parts of the eye (for instance, choroiditis, retinitis pigmentosa) or from diseases

¹Embryol. Untersuch. über die Entstehungsweise der typischen angeb. Spaltbildungen (Coloboma d. Augapfels. *v. Gräfe's Arch. f. Ophth.* 55, 3, p. 597. 1903.

²*Graefe-Saemisch, Handb. d. gesamten Augenheilk.* Vol. 5, p. 287.

of a general character (for instance, diabetes mellitus). The secondary cataracts do not require consideration in this place because, in so far as they are connected with other hereditary eye-diseases, they are treated along with the latter (retinitis pigmentosa), whilst the cataracts produced by hereditary constitutional diseases only, form an occasional complication of the general state of impaired health.

The hereditary formation of cataract affects nearly always both eyes. In the congenital kind it is possible for the ascendants to have been quite healthy. Thus *Purtscher*¹ reports on congenital gray cataract as a family-affection; healthy parents with good eyes had 11 children of whom the 4th, 7th and 11th were blind from cataract. On the other hand a healthy father or mother can transmit to the offspring indirectly congenital cataract occurring in their respective families. The following genealogical tree communicated by *Appenzeller*² will serve as an illustration.



Here a predisposition to cataract in the father's family and one to the digital deformity in the mother's family were transmitted to the child notwithstanding the absence of consanguinity.

The lamellar cataract which is congenital or acquired in early childhood, can also be transmitted directly from gen-

¹Angeborener grauer Star als Familienübel. Zentralbl. f. prakt. Augenheilk. 1897, p. 198.

²Ein Beitrag zur Lehre von der Erbllichkeit des grauen Stars. Inaug.-Dissert. Tübingen, 1884, p. 21.

eration to generation. The writer has seen lamellar cataract in mother and daughter (*Hirschberg*¹), in grandmother, mother, son and daughter of the latter.

According to *Laqueur*² "the direct transmission of congenital cataract from parents or grandparents respectively can generally be demonstrated by the fact that the father or the mother suffered from juvenile cataract—i. e. cataract developing at an age between 25 and 35,—that they also turned grey as a rule at an early age, and that the children were born with cataract."

Not all the observations on this point can be credited with supplying sufficient proof that heredity has a direct influence upon opacities of the lens which develop only in the course of life. The so-called senile cataract is, comparatively speaking, of such frequent occurrence that the conclusiveness of many an observation is very doubtful; take for instance that of *Becker*³ who operated for cataract on a woman 50 years old, who, when convalescent, received visits from her mother and her nonagenarian grandmother, both of whom had also been operated upon for cataract.

On the other hand, such cases, where several healthy members of a family developed cataract in youth or middle age, are capable of one explanation only. As a matter of fact such cases do exist. I quote from *Hirschberg*:⁴ "Of the 4 children of a man who became blind from cataract in his 30th year, 3 became equally blind from cataract at the early age of 28. They are otherwise all healthy and strong, and all have been successfully operated upon. The only child of the youngest daughter showed congenital lamellar cataract in both eyes."

Father and mother can transmit the disease to their male as well as to their female descendants, though isolated members of the same generation as a rule escape.

¹Ueber Schichtstar bei aelteren Menschen. Centralbl. f. prakt. Augenheilk, 1893, p. 225.

²Ueber hereditaere Erkrankung d. Auges. Zeitschr. f. prakt. Aerzte. P. 728, 1897.

³*Graefe-Saemisch*, Handb. d. ges. Augenheilk. Vol. V., p. 262.

⁴Deutsche Zeitschr. f. prakt. Heilkunde, 1874, p. 31.

V. Choroid.

The congenital fissures (colobomata) have already been mentioned. Hereditary inflammations, excepting syphilis, are exceedingly rare, if they occur at all.

I only know two instances in which a suspicion of hereditary etiology was justified. One¹ relates to two healthy brothers who were attacked in middle life with double symmetrical choroiditis. The other one, communicated by *Bull*, refers to a father, son and daughter (out of five children) who suffered from choroiditis without any demonstrable cause. (Quoted after *Magers*.)

VI. Retina.

Retinitis pigmentosa.—This degeneration of the retina proceeding from the periphery to the centre and accompanied by secondary atrophy of the optic nerve, attacks both eyes and is congenital, or begins in early childhood. It leads by a chronic course, after a duration of years or decades, to blindness. Hereditary conditions play here an important part. In about 50% of the cases hereditary predisposition can be demonstrated. A direct transmission from parents to children is rare, and runs, as a rule, through two generations only, though it is not possible to exclude with certainty further transmissions.

This is shown by the following case treated by the author: Grandmother and mother of the patient were afflicted with night-blindness from early childhood. The grandmother became blind at 56, the mother at 44. The patient, aged 24, and a younger sister, aged 19, presented a typical picture of retinitis pigmentosa, whilst a brother is said to have good eye-sight. Of the patient's three children, one boy sees well, a daughter 6 months old could not be examined, and a daughter

¹*J. Magers*, Ueber hereditäre Sehnervenatrophie und hereditäre Chorioi-ditis. Inaug.-Dissert. Jena, 1899.

4 years old showed already changes of the pigment-epithelium in the form of numerous white spots in the periphery of the fundus of the eye.

More frequently we come across collateral heredity, so that several brothers and sisters—but as a rule not all of them—are attacked. As to the order of succession in which they are affected, no absolute type is applicable to the generality of cases. The male sex supplies, however, the larger percentage.

The affection of the retina can be complicated with idiocy, deafness, deaf-mutism, polydactylism. Occasionally these complications appear in the same family alternately with atrophy of the retina; and just as these diseases and malformations occur in connection with consanguineous marriages, so we see $\frac{1}{4}$ to $\frac{1}{3}$ of the persons suffering from retinitis pigmentosa, descending from parents who are consanguineously related in various degrees. But as the percentage of consanguineous marriages is much lower than 25%-30%, it necessarily follows that there must be some connection between the occurrence of retinitis pigmentosa and the consanguinity of the parents.

Glioma of retina.—The glioma which proceeds from the retina and which, if the eye is not enucleated soon enough, leads to a fatal issue through the formation of metastases, is a disease of childhood. In some cases its origin dates from the foetal period. The congenital predisposition becomes evident from the fact that occasionally several or even all the children of healthy parents are attacked by glioma of the retina. *Newton* recently reported the case of a large family in which 12 out of 16 children were affected with glioma of the retina. (The original communication: Glioma of the retina, *Australasian Medical Gazette*, Aug. 20, 1902, not being accessible, I am obliged to quote this from the review in the *Archiv f. Augenheilkunde*, Vol. 48, which, however, does not, unfortunately, mention the order of succession in which the healthy and diseased children were born.)

Amaurotic family idiocy.—In the amaurotic family idiocy, thus designated by *Sachs*, heredity shows itself equally in the collateral line. A most characteristic and con-

stant part-symptom of the diseases of which about 50 cases have hitherto been described, is formed by an alteration in the macula lutea of the retina. There supervenes in children, in the course of their first year, an increasing feebleness of mind, paralysis of the extremities and loss of sight amounting to total blindness. In the course of the second year these children die from marasmus. The ophthalmoscopic examination reveals the following typical conditions: A white spot in the macula lutea with a cherry-red point in the centre; to this is added afterwards atrophy of the optic nerve. Although we are still in the dark as to the cause of the disease and powerless in checking or treating it, the fact of its being hereditary in the collateral line is undoubted. As a rule several members of the same generation are attacked, and, what is a remarkable thing, almost exclusively among Jewish families.

VII. Optic nerve.

There is an inflammation of the optic nerve which *Leber* has described as a special disease under the name of "optic neuritis in consequence of heredity and congenital predisposition." It begins as a rule at about the 20th year with a rather sudden disturbance of the central sight of both eyes, while the peripheral parts of the field of vision remain normal. Ophthalmoscopic examination shows at first, as corresponding with a retrobulbar neuritis, no material changes; it is only afterwards that the papilla presents the pale appearance of neurotic atrophy. Although the issue of the complaint which keeps progressing for several weeks or months, is rarely complete blindness, the central (direct) vision is as a rule extinguished, so that the patients can find their way about with great difficulty only. The course of the disease is generally the same in the same family, so that the prognosis depends in the main upon the degree of malignity which the malady exhibits in that particular family.¹ In some cases headache,

¹*Th. Leber*, Die Krankheiten der Netzhaut und des Sehnerven. *Graefes-Saemisch*, Handb. d. ges. Augenheilk. Vol. 5, p. 827. 1877.

vertigo and other disorders of the nervous system make their appearance at the same time.

Just as progressive atrophy of the optic nerve in general attacks more frequently the male sex, so this disease befalls almost exclusively the male members of the family. Notwithstanding this relative immunity of the female sex, the virus of the disease is often transmitted in such a manner that of several brothers and sisters, the brothers alone are attacked, while the sisters remain healthy but procreate descendants of whom the male members again in their turn become the victims. We are therefore in the presence not of a direct heredity from parents to children, but of a collateral heredity. The probability that males affected with the disease will produce descendants equally affected is therefore comparatively slight; it is rather the male offspring of the sisters of those male individuals affected with neuritis who are in greater danger, so that the marriage of healthy sisters of neuritically diseased brothers is, in this respect, as in hæmophilia, a source of peril.

VIII. *Glaucoma and hydrophthalmus.*

As our knowledge of the etiology of glaucoma is to-day, after more than 30 years of research, no greater than it was in his time, the opinion uttered then by *Albrecht von Graefe* to the effect that generally speaking the old darkness still prevails, but that heredity plays a very important part among the causes of the disease, is applicable still, and I will therefore quote him literally:¹ "It (heredity) seems to exert the greatest influence in the typical inflammatory glaucoma, which as we often enough see, attacks several members of a family and passes from generation to generation. It has struck me that, when several generations have already been successively attacked, the outbreak gradually occurs earlier, i. e. during middle age or even during the first half of life. In Berlin alone several such families are to be found in which glauco-

¹*A. v. Graefe*, Beiträge z. Pathologie u. Therapie d. Glaucoms v. Graefe's Arch. f. Ophthalm. 15, 3, p. 227. 1869.

matous diseases have occurred through 3 or 4 generations (possibly even longer) and the members of which generally exhibit the first symptoms between the 30th and 40th year, while the parents and grandparents did not begin to suffer before they were in the fifties or sixties. Once I saw, what must, of course, be a rare exception, glaucoma occur in mother and daughter in the same year, although there was a difference of 26 years between their ages."

The communications on the direct and also collateral heredity of glaucoma are numerous. A distinction as regards sex does not seem to exist. Patients of Jewish descent are seen comparatively often.

Hydrophthalmus which has been described as the glaucoma of childhood has repeatedly been observed among brothers and sisters.

IX. Ocular muscles.

Clonic spasm of the muscles and defects of motility occur as motor disturbances based upon hereditary predisposition. The so-called nystagmus, i. e. the movements of the eyes which in the form of clonic spasms swing to and fro, occurs as a symptom of diseases of the central nervous system and is therefore observed also in hereditary nervous complaints, for instance in *Friedreich's* ataxia, and likewise in hereditary eye-diseases, f. i. retinitis pigmentosa, congenital opacity of the lens, albinismus, etc., in which the weak eye-sight is regarded as the causal factor in the production of the nystagmus. But there is also a so-called idiopathic congenital nystagmus which accompanies a normal condition of the eyes with or without a reduction in the acuteness of vision, and which has occasionally been observed in two or more generations. In these cases the anomaly has more the importance of a cosmetic disfigurement, as the involuntary movements of the eyes do not, like the acquired nystagmus, cause an apparent motion of the external world.

Here also the continuity of the heredity is occasionally interrupted in such a way that healthy female members of the

family transmit the complaint to male descendants. Only recently *E. Clarke* (Hereditary nystagmus. *The Ophthalmoscope* 1. 3. p. 86, 1903) has communicated a very interesting family-tree, according to which nystagmus occurred through five generations in this manner that all the male members had nystagmus, that nearly all of them married, that their children had no nystagmus, whereas of the female members who were all free from nystagmus, the eldest daughter always transmitted the anomaly to her descendants.

Among the inherited congenital defects of motility the most frequent is the incomplete or entirely absent elevation of one or both eye-lids, ptosis. With this constant symptom there may be associated an inability to turn the eye-ball upwards. There may be defects in moving the bulb outwards or inwards, there may be a participation of all the external, but never of one of the internal, eye-muscles, of the ciliary muscle, or of the sphincter pupillæ.

Occasionally we come across other malformations as well, such as epicanthus, a cutaneous fold stretching across the internal canthus which diminishes the space between the eye-lids. In one rare group of cases a defect in the motor apparatus of the eye, hardly or not at all noticeable at birth, has developed later in life as a family affection. The disturbance in the motility is sometimes of a like character in all the members of a family thus affected, f. i. paralysis of the external rectus, or ptosis and simultaneous inability to turn the eye upwards; but this may also vary. Similarly the causes leading to the defects are not uniform, whilst in many cases their pathological anatomy is not as yet understood. It may be a question of morbid processes in the brain, in the nerves or the muscles; thus there are occasionally found in the place of the latter cord-like bands of connective tissue.

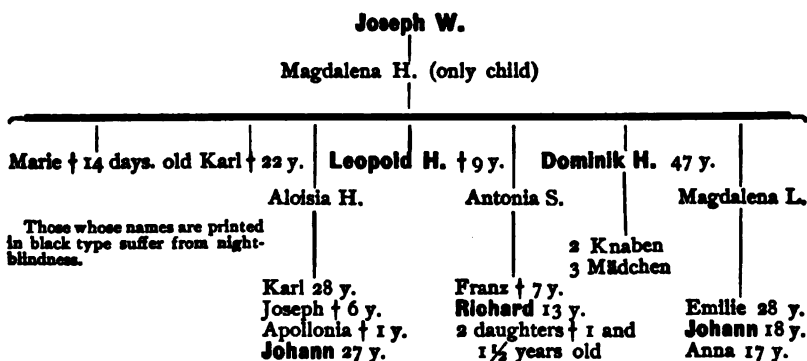
Heredity may become apparent here in a collateral form in brothers and sisters. Frequently, however, direct heredity, without special prevalence in any one sex, can be proved and has even been traced through as many as five generations.¹

¹*Steinheim*, Epicanthus mit Ptosis und die Hereditaet. *Centralblatt für prakt. Augenheilk.*, p. 48, 1898.

Besides these affections which are associated with anatomical lesions of a more or less pronounced character, there are disturbances in the sense for light and colours of undeniable hereditary origin, which we include among the functional disorders on account of our present scanty knowledge as to their anatomical basis.

X. Functional diseases.

Congenital night-blindness.—This rare disease is accompanied by good perception of form and a normal condition of the fundus. It impairs the eyesight to such an extent that the sufferer is incapable of finding his way about in the dim evening light. Even if we ignore the observations made in pre-ophthalmoscopic times because confusion with retinitis pigmentosa might have been a frequent mistake, there have been quite recently published a number of cases in which a most careful ophthalmoscopic examination revealed nothing abnormal. In the majority of these cases hereditary transmission could be demonstrated. We select as an illustration the following family history published by *Cutler* (*Archiv für Augenheilk.* 30, p. 92. 1895).



Here we have again the type in which the disease is transmitted through healthy daughters to male descendants. This "law of heredity of hæmophilia in night-blindness" is the title

of an analogous communication by *Ammann* (*Correspondenzblatt f. Schweizer Aerzte*. 20. 1898). The heredity can, however, show itself in other ways as well. Although congenital night-blindness is found oftener in males than in females, the latter also are attacked sometimes. The father, too, may transmit the disease, and it is quite possible for sisters and brothers to be affected alike.

Congenital colour-blindness. Partial colour-blindness (red-green blindness).—Red-green-blind individuals mistake, under corresponding circumstances, red for green and vice-versa. As these persons are not sometimes able to distinguish red and green objects, they are unsuitable for certain definite occupations only, f. i., the railway service with its red and green signals; otherwise they are as a rule in the possession of a useful eyesight for all practical purposes. The fact that there are ten times as many colour-blind men as women is noticeable in the hereditary form as well. Here again the most common form is that in which from among the children of a colour-blind father the daughters escape the defect themselves, but transmit it to their sons; in other words, among the ascendants of colour-blind persons the grandfather has frequently, and the uncle on the mother's side occasionally, suffered from this abnormality, whereas the parents themselves possess a normal sense for colours. It is therefore nothing strange if brothers often are colour-blind. Nevertheless, the heredity can extend to the female sex as well, and exceptionally it may happen that the transmission proceeds also through male relatives.

Total colour-blindness.—In contrast to partial colour-blindness, total colour-blindness constitutes a very tedious complaint, but occurs fortunately far more rarely. The visual organ is deteriorated in character, the acuteness of vision is diminished, and the outer world appears to the colour-blind eye as clothed in different shades of grey. Total colour-blindness has been observed about twice as often in men as in women, the heredity was a collateral one only, as comparatively often several brothers and sisters have been found to be totally colour-blind.

II. *Microphthalmus and anophthalmus.*

Abnormal congenital smallness of the eye-ball (microphthalmus) which can go so far as to leave in place of the organ a rudiment visible only with the microscope (anophthalmus) has been observed several times in one and the same family. Microphthalmus may be transmitted from the parents to their offspring and even through 3 generations.¹ It is but natural that there should be a dearth of observations on the propagation of individuals with double congenital anophthalmus; but the hereditary form of one-sided anophthalmus has been observed, for instance by *Landsberg*:² a man with congenital left anophthalmus procreated by a healthy wife two children of which the first-born exhibited right anophthalmus.

In conclusion, the question must here be considered whether parents can transmit to their offspring diseases of the eye acquired during life and not resting upon a congenital predisposition. Has for instance a married man who has had one of his eyes enucleated cause to apprehend that his children will be born with anophthalmus? So far no such case has been reported. *Mulder*³ experimented for 6 years on several generations of rabbits. He enucleated the right eye in about 200 animals, but could produce in the offspring no abnormality of the eyes.

There are also no clinical-statistical proofs as to the hereditary transmissibility of non-traumatic diseases of the eye. The only two observations on the subject, one by *Magnus*⁴ and the other by *Fuchs*⁵ have been quoted time and again: *Magnus* speaks of a man who became blind through blenorrhœa neonatorum, and who begat two children with microphthalmus congenitus. *Fuchs* mentions the case of a doctor with right congen-

¹*Martin*, Ueber Mikrophthalmus. Inaug.-Dissert. Erlangen, 1888.

²Vier Fälle von Anophthalmus congenitus. Klin. Monatsbl. f. Augenheilk. 1877, p. 141.

³Ein Fall von Lenticonus posterior, anatomisch untersucht. Klin. Monatsbl. f. Augenheilk. 1897, p. 409.

⁴Die Blindheit, ihre Entstehung und Verhütung. Breslau, 1883, p. 139.

⁵Die Ursachen und die Verhütung der Blindheit. Wiesbaden, 1885, p. 8.

ital microphthalmus whose father had lost his right eye during childhood through iridocyclitis.

Magnus quotes, however, in the same place 9 other cases where either husband or wife, or even both together, had become blind before their marriage through blenorrhœa neonatorum, atrophy of the optic nerve, etc., but who, nevertheless, generated children with healthy eyes. But isolated cases are not sufficient to settle this question nor can they in any way demonstrate the influence of heredity, or exclude the chances of accident.

With the material of facts at our disposal, we are justified in regarding the probability that acquired eye-diseases in the parents will influence the development of the eyes in the offspring, as practically non-existent.

XIX

Diseases of the Lower Uro-Genital Organs and Physical Impotence in Relation to Marriage

XIX

DISEASES OF THE LOWER URO-GENITAL ORGANS AND PHYSICAL IMPOTENCE IN RELATION TO MARRIAGE¹

By Professor C. Posner (Berlin)

*1. Diseases of the testis and epididymis.
Disturbances in the production of the seminal fluid.*

The greatest importance in all questions pertaining to the subject of marriage is naturally claimed by diseases of the testicles, since the normal function of these glands constitutes the primary condition necessary for the fulfilment of the real object of marriage, which is the perpetuation of the species. Nature has not by her anatomical arrangements been lavish in providing the male organs of generation with means of protection. They are not like the ovaries hidden in the interior of the organism, but lie in their sac-like receptacle outside the abdominal cavity in a rather exposed situation where they are subject to all kinds of injuries, contusions, punctures and lacerations. They have, however, as a compensation for this shortcoming so to speak been endowed with an almost wonder-

¹It has been found impossible to avoid introducing in this article subjects which have already been discussed in other chapters of this work; this is particularly the case with some of the sequelæ of gonorrhœa, as f. i. the cicatricial induration of the epididymis, which constitutes the principal cause of the generative impotence in the male. It affords me gratification to find myself on the whole in agreement with the views expressed by *Neisser* on these points. I may say the same thing with regard to various other points casually arising in connection with the subject of impotence and which are dealt with more minutely in the chapter contributed by *Moll*.

ful productiveness which seems to exceed by far the necessary requirements. It is not only that with each ejaculation millions of spermatozoa are discharged and eventually transmitted into the female genital canal, one of which alone suffices to impregnate the ovum, but even in diseases of all kinds there always remains for a long time a perfectly sufficient function. If, for instance, after a severe general illness the state of nutrition is ever so low, the production of seminal fluid and with it the sexual desire are, nevertheless, very slow in disappearing. In fact, we know that on the contrary consumptives often manifest shortly before death a strongly-marked sexual desire accompanied no doubt by the secretion of a perfectly serviceable spermatic fluid. Even in local affections the process must have gone already very far or it must have taken place in quite distinct spots for the spermatogenesis to be destroyed in reality. In tuberculosis, in carcinoma, there still remains for a long time a sufficient amount of functionally capable substance; and just from this point of view it is of interest that in purely mechanical disturbances which the production of semen experiences through cord-like cicatrices in the region of the epididymis, there can still take place in the testicle itself, even after many years, a formation of fully-developed spermatozoa. What is particularly necessary in judging the influence of disease of the testes upon the generative faculty is, not to lose sight of the fact that unilateral affections may cause a disappearance of the production of semen under circumstances which but rarely occur. It would appear as if nature intended to provide in the bilaterality of the organ an additional suitable protective agency.

Congenital absence of the testicles.—The occurrence of a congenital developmental anomaly is a comparatively rare marriage-obstacle. A congenital absence of both testicles has occasionally been reported; the probability is, however, that in most cases of the kind there was not an actual absence, but an ectopia only, a retention of the testicles in the abdominal cavity, with which, it must be admitted, there is often associated an insufficient development, as we shall see later on. Even the complete absence of one testicle only, which, as already

mentioned, would not impair directly the generative faculty, may be doubted.

What has been observed, though once only, is a monorchism caused by the fusion of the two testicles—equally a circumstance of no practical importance to the question of sterility.

Atrophy.—Greater value must, however, be attached to the conditions of atrophy, or better said, of deficient development. A congenital one-sided "atrophy" i. e. a well-marked smallness of one testicle is not infrequently observed in otherwise quite vigorous individuals, and not rarely in combination with a particularly strong compensatory development of the other healthy testicle. But a real double aplasia also does occur, usually, though, in association with other morbid phenomena such as general backwardness of the growth, "infantile habit," or with deviations in the development, the so-called "female habit." Such conditions are seen f. i. in cretins who look as long as they live like big children, in myxœdema until successful treatment is instituted, but also in individuals who belong to the category of homosexuals and in whom often enough the shape of the pelvis, the growth of hair and the development of the breasts are already evidences of such an *error naturæ*. The spermatogenesis is, however, as a rule in these cases by no means quite absent; in fact, from the anatomical and histological point of view we cannot admit here the existence of an impotence; it is more the psychical deviations, the absence of sexual desire or a sexual inclination towards the same sex which come into play; psychical rather than physical impotence makes it therefore necessary for the medical consent to the marriage of such perverts to be withheld when it is, say, for prudential reasons of some sort or other contemplated.

I should like, besides, to point out especially, that a big or small size of the testicles is in itself never to be looked upon as a sign of greater or lesser virility. We must be particularly careful not to overestimate the importance of very large testicles, as is frequently done by the lay public. Quite apart from mistakes of a gross nature,—excessive hyperæmia, hydroceles, varicoceles,—the absolute bigness of the organ is of

course no guarantee that the secreting glandular elements are present in relatively large numbers. If we desire to be informed as to the functional capability of the testicles there is no other means than the microscopical examination of the seminal fluid in as fresh a condition as possible—and even here certain precautions are necessary of which we shall speak further on.

An acquired atrophy of the testicles is said to occur after certain general diseases. That it does not constitute the rule in consumptives has already been mentioned. On the other hand it seems for instance that chronic lead-poisoning has sometimes this result, and it might therefore be advisable in regard to persons who have a great deal to do with lead to bear this point in mind under certain circumstances. The assertion, for which there is *prima-facie* a great improbability, that nephrectomy is also capable of causing a cessation of the spermatogenesis has been refuted by *Legueu* and *Cathelin*. Injuries to the back of the head can lead to a rapid diminution of the sexual desire and, as it appears, in this way to an atrophy through inactivity. Although parotitis epidemica is equally accused of being capable to lead to such a result, I must suppose that this takes place always in a round-about way by means of an epididymitis, and that it is therefore a form of impotence which we shall have yet to discuss.

“Atrophy” of the testicles is a physiological accompaniment of old age, though we are certainly not in a position to lay down a general time-limit, applicable to all cases. Just as the *potentia cœundi* may be retained up to a most advanced age so the function of the testicles may remain present in even extremely old men. Those cases are rare in which congenital aspermatism, that is complete absence of seminal fluid, is observed without the co-existence of some mechanical obstruction. But occasionally we do come across men who are apparently quite healthy and vigorous, whose testicles are normal in size, and who though they have never been ill, do not produce a real spermatogenic fluid. The prognosis would seem in these cases to be downright unfavourable.

Ectopia.—Allied to the above-mentioned cases of deficient development of the testicles are those in which the organs have

not taken the prescribed course along the inguinal canal into the scrotum, but have remained in the interior of the abdominal cavity or of the inguinal canal, malformations which are designated as ectopias of the testes. From the point of view of marriage those cases are the most interesting which are accompanied by other developmental abnormalities, especially incomplete closure of the rhaphe, smallness of the corpora cavernosa, etc., and which may simulate a perfect female type; hermaphroditismus spurius. Here the poorly developed scrotal halves appear as labia, the penis as clitoris, and as the testicles can as a rule hardly be felt, the question of the real sex is not cleared up—unless at the autopsy—until a sexual inclination is experienced towards women, when, as it has repeatedly happened, attempts at intercourse result in impregnation. The cases are very numerous,—and they have recently been repeatedly tabulated with great care and praiseworthy industry,—in which such individuals were not only christened as females, but where they actually married as women, or where they could perform sexual intercourse both as women and men. A medical examination establishes as a rule the real state of affairs, but it can only be regarded as concluded when the spermatic fluid has been subjected to an investigation. It is sufficient to have said this much, so as to recall things which are indeed known to all of us.

Cryptorchism.—More frequent is the occurrence of ordinary cryptorchism, that is the retention of the testicles without any other striking arrest of development. Abdominal or inguinal testicles need not as such have any effect on the virility, especially as here also the affection is very often a uni-lateral one only. With regard to abdominal testicles there is not much to say; very often it is absolutely impossible to ascertain their presence on account of their concealed situation; therapeutically nothing can be done. The inguinal testicle represents a more serious abnormality. In the first place it is still more prevented from developing by the pressure of the surrounding parts; it remains almost always remarkably small. Moreover, it is on account of its exposed position subject to multifarious injuries, blows, contusions, etc., which it cannot avoid, so that most serious strangulation-symptoms are apt to arise. Finally, and

this is of the greatest importance to the questions which interest us here, a testicle so situated has an especially marked tendency towards malignant degeneration, particularly towards the formation of sarcoma, which is extremely dangerous to life not only in itself but also by a rapid development of metastases in the lymphatic glands of the abdominal cavity. The significance of inguinal testicles to the individual affected must therefore be judged independently of the question of virility: such a testicle forms so marked a *locus minoris resistentiæ*, especially during the period of sexual activity that its presence necessitates the most careful consideration on the part of the physician who is approached for the purpose of giving his consent to a projected marriage. For this reason the attempts to cure the defect by an operation are truly justified. It is best to carry out this surgical intervention, which aims principally at pulling down the testicle and fixing it at the lower pole of the scrotum, at an early age; the operation is the easier and the outlook the more hopeful, the less increase there is in the volume of the testicle, an increase which takes place previous to puberty.

Inflammations.—With regard to inflammations which affect the testicle, it is not possible to distinguish them sharply from the affections of the epididymis. The bulk of them are formed by gonorrhœic inflammations, as to which there is at the present day no doubt whatever that the infection takes place by means of the gonococcus (perhaps, also by one of the secondary causative agents of the disease) along the vas deferens. More difficult to understand is the predilection which some other infectious diseases, particularly parotitis epidemica—and also enteric fever—show for the epididymis. The probability is that it is a case of genuine metastasis, similar to the one which often appears in the epididymis in connection with tuberculosis. Acute gonorrhœal inflammation does not play any very great part in relation to the subject of marriage. Nevertheless, it is to be remembered that an apparently extinct gonorrhœa may break out afresh very suddenly and unexpectedly in consequence of sexual excesses, such as are very often indulged in by newly-married people. Whether the wearing of a suspensory bandage has indeed the prophylactic effect attrib-

uted to it, I consider, to say the least, doubtful. There is no need to enter here into a special discussion of the treatment of acute epididymitis, but it is the consequential results of this disease which are of the greatest importance to the subject of marriage and the married state. It is well known that the prognosis as such is on the whole favourable. The swelling which arises very acutely goes down as a rule without suppuration taking place; where the latter does occur the condition becomes rather more serious, as in spite of most careful treatment a large portion of the testicular substance itself frequently dies after becoming necrotic. Generally, however, the course of the illness is such that the acute swelling reaches its acme in a few days, that pain, pyrexia, etc., then begin to subside, but that the infiltration itself persists yet for a while, becoming soft and undergoing absorption only very gradually. Isolated nodules in the epididymis can even then be felt for a long time yet. It is these nodules which constitute the danger: they are elongated cicatrices which compress the narrow and intricately-twisted canal of the epididymis, displacing and destroying it. In this way a mechanical obstruction is created which can arrest completely the passage of the spermatozoa from the testicle into the vas deferens. The vas itself remains, however, as a rule permeable, as investigations made by *Simmonds* especially have shown and as I can confirm from personal observations.

Impotentia generandi. Azoospermia.—This is the most frequent and most important cause of the generative impotence of man. We must not, of course, take this to mean that every epididymitis leads invariably to this unfortunate result. In the first place a great many cases heal perfectly under the usual suitable treatment without leaving behind any demonstrable anatomical or functional disturbances. It is not easy to state this in figures of percentage, but I do not think I am far wrong in allowing this issue in about a third of the cases. But then the principal condition here also is an affection of both testicles, except in the case of special and previously-existing diseased conditions. In this respect the examination of the patients leaves one very frequently in the lurch. I have seen a fair number of patients with complete azoospermia of an undoubtedly epididy-

mitic origin who maintained with absolute certainty that they had had the disease on one side only although there were traces of the inflammation visible on both sides. Unfortunately such patients do not as a rule come to us until many years have elapsed since the illness took place, when it is sterility which induces them to seek medical advice, so that frequently 12, 15 or more years will have passed since the attack of gonorrhœa. Under such circumstances we cannot place much reliance on the memory of the patients and we must examine for ourselves with the greatest care if we wish to obtain a correct view of the situation.

Besides an examination of the local conditions, the principal item is naturally an examination of the spermatic fluid itself. It has gradually come to be recognised—and we are indebted to *Fürbringer's* repeated suggestions for this practical success—that the semen of such patients need hardly be in any way outwardly distinguishable from that of healthy persons. Just as their virility may be a perfectly unimpaired one (sometimes even strikingly great) so the quantity of the ejaculated fluid may be in no way diminished. On closer inspection, though, it often appears markedly light and thin, but it requires a great deal of practice to be able to tell the difference and I am not inclined to advise anyone to draw hasty positive or negative conclusions from a mere inspection of a specimen of seminal fluid. Neither does the odour present anything characteristic, seeing that it is derived from the prostatic secretion. It is only the microscopical examination which can be regarded as decisive.

Generally speaking, the latter is directed towards ascertaining whether there are any spermatozoa at all; neither the quantity nor the mobility of the spermatozoa present is so important as this cardinal point. In a typical case of sterility in consequence of double epididymitis the examination of the fluid reveals nothing but amorphous masses, amylaceous bodies, particles of lecithin and, on cooling, the frequently exquisitely-shaped sperm-crystals. The Florence reaction with iodine and potassium iodide takes place promptly. It is advisable to make this examination also several times before giving a definite

opinion. The state of preservation of the semen may sometimes be so bad through bacterial decomposition—though I consider this rarely to be the case—that it is no longer possible for the various constituent elements to be recognised properly; under such circumstances it is helpful to examine stained specimens which show the heads of the spermatozoa especially well marked. Some cases are characterised by a striking paucity of spermatozoa, a so-called oligozoospermia, which is, perhaps, the result of some morbid condition, but which may also—though very rarely—appear temporarily after very frequently repeated ejaculations. It is in these cases of oligozoospermia particularly that I have successfully employed the staining method for the recognition of the spermatozoa present. The mobility can of course only be ascertained by the examination of perfectly fresh semen; after a few hours, especially in cold weather, every trace of it has disappeared, and neither the warming of the slide nor the addition of some liquor potassæ can do any good. One must be very careful in expressing an opinion about the mobility being “slow” or “quick.” Even where there is already some rigidity of the spermatozoa present, one may find certain indications in their shape: those which had moved vigorously become rigid as a rule in a twisted zig-zag manner, and those which were formerly immobile, as seen for instance in so-called necrospermia, are when rigid straight and rod-like. A great deal is also said about malformations, and their presence diagnostically utilised; poorly developed heads, swollen misshapen necks and centres are not infrequently prominent features, but I consider it very doubtful whether it is justifiable to venture even on a suspicion of pathological conditions on account of such manifestations; very likely accidental products or possibly artificial effects in the preparation of the specimen are accountable for them.

We must briefly refer here to the ticklish question how the necessary material is to be obtained. It is generally sufficient in the case of intelligent patients to tell them simply that semen is required for purposes of examination, and they will as a rule bring it in a very serviceable condition. Where more detailed instructions are needed, I recommend the employment

of condoms which must be fastened immediately after the ejaculation has taken place. As I have already mentioned I do not attach any decisive value to the freshness of the semen—there is no harm if it is examined when it is a few hours old! In some cases, by the way, we can answer the fundamental question whether there are any spermatozoa or not, by a much simpler method and one should never omit making an attempt in that direction. In a great many individuals it is possible by rectal pressure on the vesiculæ seminales to bring to light some secretion which contains in addition to other elements spermatozoa as well; if no such secretion appears at the urinary meatus there may be some in the urine evacuated immediately afterwards, as pointed out some years ago by *Rehfsch* especially, in which case it can be obtained for examination by centrifugalisation. I have often been in a position to re-assure patients on the subject of their dread of sterility by a positive result of an examination made in this way, without asking them to bring me some semen—a procedure which is after all distasteful to a great number of people. A negative result does not of course prove anything.

Where complete azoospermia is finally established, the prognosis is generally a very sad one: the generative faculty must be considered as absolutely extinct. It is true that our medical sense cannot reconcile itself to the idea that a, perhaps, very small cicatrix is capable of causing the entire loss of function of such an important organ, and we are always looking for ways and means to bring about the disappearance of this obstacle to procreation. At the beginning of the illness this is probably still possible; if the cicatricial or rather cicatrising infiltrations are taken in hand immediately after the acute inflammation has subsided, they can very likely often be removed by absorbent remedies, heat, fomentations, massage, etc., or at least prevented from producing complete destruction. What a wide field is probably thus opened to prophylactic therapy! But what about the old scars, formed long since, which we come across in the majority of cases?

As to internal remedies, there is no doubt whatever that they are all ineffective. Especially potassium iodide and simi-

lar drugs have been tried again and again, but even in cases which one might feel justified to ascribe to syphilis rather than gonorrhœa I have never derived the slightest benefit. One might, perhaps, look with more confidence upon physical remedies. Massage is by some regarded with very great favour; personally I have often employed it, especially also in the form of vibratory massage, but unfortunately without success; nor do I know of any reliable cases that have been published on the subject. It is no different with vapour-baths of all kinds, with applications of ichthyol or iodine, with mud-baths, fango and sulphur-mud. For all that, one will always be tempted, especially in the more recent cases, to try all these remedies; the possibility of success cannot altogether be excluded.

Fürbringer was, as far as I know, the first to ventilate the question of surgical interference. The original idea was that if the nodules are situated in the vas deferens, a sort of treatment like that of stricture might be adopted in the form either of vasotomy or of dilatation by bougies. Unfortunately, however, the vas deferens is but rarely attacked; in the cases operated by me it was always found perfectly free from disease and easily permeable by thin elastic bougies. The obstacle is situated more in the epididymis itself, and here the cord-like cicatrices and the canal are so intermixed that it is absolutely impossible to entertain the idea of exposing and re-establishing the lumen. All that might possibly be done is to extirpate the affected parts totally and to establish by a direct anastomosis between the vas deferens and the testicle an uninterrupted passage for the spermatozoa. A preliminary condition would of course have to be the presence of spermatozoa in the testicular substance. A priori one would imagine that after an inactivity of the testicles extending over many years such an atrophy is bound to ensue that no more spermatozoa are formed. But strange to say this is not the case, as *Simmonds* has long since shown. If in order to find this out the testicles are exposed ("surgical revision" as *Fürbringer* calls it) one can still find even after 19 years perfectly developed spermatozoa; that they are not mobile is no proof that their vitality has disappeared, since their self-mobility, while in the testicles, is altogether

absent or at least very small. I have repeatedly been able to ascertain the same state of affairs by a simple puncture of the testicle by means of a hypodermic syringe, a procedure which is not at all dangerous and which I wish here to recommend for that purely diagnostic object.

I have attempted in conjunction with *J. Cohn* to establish such a vaso-orchidostomy in a fairly large number of cases; we have not however hitherto been so fortunate as to achieve a positive result. The reason for this may possibly lie partly in the unfavourable material which consisted almost of very old cases, and partly in the circumstance that our *technique*—the details of which will be reported in a separate communication—has only gradually been evolved by ourselves. But I desire at any rate to confirm the justification for this operation in the sense advocated by *Fürbringer*. We are encouraged in this respect by a case treated successfully in America by *Martin*; judging also from similar experiments which have been made for the elimination of tuberculous nodules in the epididymis, there is no doubt as to success being within the range of possibilities; and I am firmly convinced that a favourable result will eventually be obtained in this way, though perhaps only in a small number of cases.

But for psychical reasons, too, I consider the surgical operation as justified, even if we do not regard it otherwise than from the standpoint of "surgical revision." One must have witnessed rather frequently the disappointment experienced by patients when told that they suffer from azoospermia, to realise with what joy they cling to the slightest hope and how animated they are by the desire to try the last possible remedy. The knowledge alone that with the surgical operation at least everything has been attempted which lies within the power of man has on most of them an uncommonly appeasing effect. It is only rarely that the contrary happens—but still there are cases where not only the husband but the wife also accepts the information that the sterility is absolute, with perfect indifference or even with unmistakable satisfaction. As a rule, however, the married couple cling to this last straw of hope. One must, of course, be careful not to exaggerate the chances in any way.

That the operation is, as far as human foresight can tell, devoid of danger and that the process will heal up in a few days may safely be promised, but as to the main result, it is best to describe it as exceedingly doubtful if one wishes to avoid future reproaches.

Where a genuine sterility is established beyond doubt, and where all the remedies employed have proved futile, it is in my opinion the duty of the physician to communicate the truth fully and without reservation. A long delay or, perhaps, a misrepresentation of the true state of affairs is unscrupulous conduct. Very often most important decisions depend upon the medical opinion, such as family-arrangements, the adoption of children, and so on. The whole subject requires extraordinary tact and circumspection on the part of the medical man. It is particularly necessary to insist upon one point, namely that husband and wife should be equally enlightened. We have only to recall the very sad family-tragedy which was reported a few years ago, in which the husband was quite aware of his sterility, and the wife who knew nothing about it became nevertheless pregnant. Of course if the husband alone consults the physician the latter is in these cases as always bound to maintain professional silence, but it is advisable to point out to the patient that it is his duty to tell the wife the whole truth if only for the humane reason to save her from constantly reproaching herself that she is the cause of the sterile marriage and also to put an end to the vain cures which she is openly or secretly undergoing at the hand of gynæcologists or quacks. It is worth mentioning here that unmarried men require occasionally for the purpose of opposing affiliation-claims medical certificates as to their sterility; so as to avoid substitution it is at any rate advisable when issuing such certificates to state clearly that the opinion expressed refers to the "specimen of semen submitted for examination." (*Fürbringer.*)

There are no particular instructions on the subject of sexual intercourse during married life indicated by sterility as such.

Oligospermia.—The question of oligospermia is more difficult to estimate. Impregnation is not of course impossible,

although the chances of its taking place are certainly smaller. The cause may possibly lie very often in a beginning cicatrization in the region of the seminal passages, and massage-treatment may in such cases be as yet effectual. At other times an arrest in the spermatogenesis may be due to one of the causes mentioned above; in disturbances of the general health, especially, a temporary occurrence of this kind frequently takes place. At all events the prognosis of these cases cannot be described as unfavourable.

Necropermia.—Necropermia (*Finger*) is the result of local processes in the vesiculæ seminales or the prostate. The spermatozoa, though produced in sufficient quantity and with sufficient vitality, are killed and rendered sterile particularly by suppuration. In these cases a rational local treatment is often of great advantage; it stands to reason that as long as the active inflammatory process continues, conjugal intercourse must be abstained from.

Tuberculosis of the testes.—Among the remaining infections of the testicles, tuberculosis plays the principal part. It is as well to point out here again that a genuine primary tuberculosis of the epididymis and testicle does not probably exist and that the point of entrance of the infection must be looked for somewhere in the body. It is important from our present point of view to notice that a direct invasion from the urethra or prostate is getting more and more to be regarded as improbable; the researches of *v. Baumgarten* and *v. Bruns* seem to be fairly conclusive evidence against it. The assumption is rather that the epididymis is in itself predisposed to tuberculous disease to a certain extent, whenever there are bacilli present in the circulation; and that every injury or inflammation renders it into a specially favourable soil. In every individual who possesses anywhere a tuberculous centre the danger of this localisation is therefore very great, and should he contract an epididymitis or suffer an injury in that region the danger becomes highly accentuated. From this we conclude in the first place that gonorrhœal epididymitis in consumptives must be treated and watched with the greatest care, and that it is imperative not to rest contented with the simple diagnosis

of gonorrhoeic epididymitis but always to bear in mind the possibility of a tuberculosis. If the epididymis of such a consumptive patient contains any nodules the probability is not very small that tubercle bacilli are there present too. This, again, has a certain amount of influence on our decision respecting the question of a contemplated marriage. Small as the danger is, it cannot be altogether denied that patients with tuberculosis of the genital organs are capable of infecting their spouses by means of the sexual intercourse; semen containing tubercle bacilli can occasion a transmission under certain circumstances, and I consider (as already stated by *Kaminer* in another chapter) that the presence of manifest tuberculosis of the genital organs is a contra-indication against the consent to the marriage. This contra-indication is of course stronger the greater the extent of the morbid changes. As soon as marked caseation has appeared or, perhaps, fistulæ formed in the epididymis or the testis, the danger is naturally very much aggravated—quite apart from the circumstance that the congestion which accompanies coitus produces in all these cases additional injuries in the diseased organs themselves.

The question now arises whether we possess any remedies which are capable of effecting a cure or at least an innocuousness of the tuberculous deposits.

The obvious idea of an early one-sided castration would seem to be worthy of realisation if we were sure that we are dealing with a primary lesion the removal of which from the body could afford a hope that the entire organism would thereby be protected. As already stated, this is not the case. Closer examination reveals almost always an affection of the neighbouring organs, such as the prostate and vesiculæ seminales, which is already so far gone that an excision of the testicle appears to be perfectly hopeless as a method of treatment. Castration can on the whole come into question at later stages only, namely when intensive changes have taken place in the testicle, when there are open wounds in it accompanied by severe pain and discomfort so that the organ is on the one hand no longer of any value and on the other looked upon by the patient as a troublesome annoyance. And even then it is very hard to

make up one's mind to a double castration, even in such cases the well-known symptoms of depression may set in. On any other remedies, either internal or external, we cannot, unfortunately, rely; neither the general treatment with tuberculin, nor the administration of cinnamic acid according to *Landerer*, or any other medicamentous, institutional or climatic cure is capable of causing a restitution. Improvements are occasionally seen, especially if open wounds are at the same time treated surgically by scraping or astringent remedies, but a real cure can hardly be expected. It is true that sometimes very extraordinary spontaneous cures take place in the sense that the nodules appear to be perfectly encapsuled, lying among the tissues quite inactive. If it is possible at the same time to ascertain that the prostate, vesiculæ seminales and urethra are also free from bacilli, there is perhaps after all no harm in permitting in such cases the exercise of conjugal intercourse; besides, we must also not forget that tuberculous people especially very often disobey the prohibition of marriage or of sexual connection.

Syphilis.—Syphilitic tumours of the testicles do not require more than a brief mention; their presence naturally constitutes an absolute reason for prohibiting sexual intercourse. Sterility also is frequently caused by them, but is nevertheless said to offer a fairly good prognosis if a very energetic anti-syphilitic treatment is instituted. Personally, as I have said above, I have not been successful in these cases either.

Tumours.—The situation is somewhat more complicated as regards the real new-growths, adenoma, enchondroma, sarcoma, carcinoma, etc. We start, of course, on the supposition that these tumours are as yet contained within the organ, so that the scrotum is not affected and that there are no open ulcerous surfaces. In such a case there does not seem to be any necessity where the tumour is benign to prohibit sexual intercourse; the generative faculty, too, may remain unimpaired for a very long time. Sarcoma and carcinoma when once recognised necessitate in the first place extirpation under all circumstances, of the whole of the testis with the epididymis; frequently, however, they are neglected at the beginning or mis-

taken for something else, and we can then ascertain that in spite of an existence of the nodules extending over many months, neither the sexual desire nor the virility or the generative faculty has in any way been affected. We must now ask ourselves whether there is in the case of these tumours a danger of transmission through conjugal intercourse. Several instances have been named wherein "genital cancer" of the husband, in which must be included in the first place cancer of the testicle, has resulted in causing a cancerous disease in the wife. As far as I could look them up in literature none of these cases seem to be capable of withstanding serious criticism. The carcinoma of the wife appeared as a rule in such situations as have no actual relation with the affected part in the husband, so that I cannot help regarding this form of "cancer à deux" as anything else but mere accident. Of course, where there are open carcinomatous ulcers, that is, in secondary or primary affections of the scrotum (sweep's cancer) conjugal intercourse must be regarded as absolutely inadmissible; seeing that an implantation of cancer-particles is not then exactly impossible, a point which will be touched again in the discussion of the carcinoma of the penis.

Hydrocele.—Following the real tumours we have to consider next in succession the cases of effusion into the tunica vaginalis, namely, hydrocele, spermatocele and hæmatocele. The two first-named affections run very often for a long time almost without any symptoms; the patients experience, it is true, a slight dragging and a certain amount of weightiness in the testicles, but they do not attach much importance to this and follow their ordinary mode of life; not infrequently the diagnosis is made only accidentally during a careful examination especially by the translucency-test when the presence of fluid is detected, particularly if the hydrocele has developed slowly in connection with an acute epididymitis. With the increase in the growth of the tumour the symptoms become worse; in extreme cases most serious cohabitation-obstacles may arise as the penis gets lost among the large mass of tumour. For a long time, however, the testicular parenchyma remains almost intact in spite of the considerable pressure exercised upon it by

these large quantities of fluid, and the production of semen goes on quite normally. It is only during later stages that an atrophy of the testicle occurs, so that it is quite possible for a hydrocele to produce eventually impotence in this way, provided either that the disease has affected both sides, a thing which does happen, or that the other testicle has become sterile from some other cause, as f. i., epididymitis. After the evacuation the function is said to re-appear. That surgical intervention is indicated in hydrocele is perfectly clear. It is needless to say that internal absorbing remedies or external ointments are entirely useless; the sole point which might require consideration at the present day is whether the treatment adopted should consist of palliative puncture, of tapping succeeded by the injection of irritating substances, or of a bloody radical operation. The main object is of course a curative effect, and I have no desire to enter here into a discussion of the vexed and still undecided question whether injection or radical incision is the better course to adopt or into that of the value of the several operations recommended. From my own practical experience, however, I should just like to mention that in married men particularly one experiences great difficulties in this connection. The patients do not at all like the idea of an operation at the testicles which necessitates at all events a rest in bed for several days; they are generally afraid that their illness would be misinterpreted and attributed to a sexual disease in the narrower sense. I know quite a number of gentlemen who prefer to undergo about once in every 3 months the harmless procedure of tapping, as they are enabled in this way to keep their affection secret and as they are not in the least inconvenienced by this arrangement, a point of view which one must admit is quite justified and which the physician will do well to bear in mind as far as practicable!

Whether it is a spermatocele and not a hydrocele with which we have to deal can as a rule be established by puncture only. Neither in the external appearance nor in the translucent conditions is there generally any indication in this respect. Besides, a diagnosis of spermatocele must be made only when there are spermatozoa in large numbers, and the fluid is in

consequence somewhat turbid. The presence of a few spermatozoa is said to be demonstrable in many cases of hydrocele, though personally I have never been able to satisfy myself that it is so. The importance of genuine spermatocele to the sexual function is probably a little greater than that of hydrocele, for we must assume that there is somewhere an open communication between the seminal passages and the tunica vaginalis, which in its turn seems to prove that there is some obstacle in the natural seminal ducts. It is therefore imperative in all these cases to take notice whether the ejaculated semen contains any spermatozoa, since a spermatocele may perhaps constitute the first indication of a developing sterility. It may not be out of place to mention here that in a case observed by me and published by *Vertun* the spermatozoa contained in the spermatocele-fluid were very well formed and endowed with a very vigorous mobility, a proof that the secretion of the accessory glands is at least not always necessary to make the spermatozoa mobile.

With regard to hæmatocele there is not much to say in this place, as it is always the result of an injury.

Varicocele.—Of very great importance, however, from the point of view of the marriage question is the affection known by the very inappropriate name of varicocele, and which does not consist of anything else but a varicose dilatation of the venous branches in the testicle and scrotum going to the spermatic vein. Slight degrees of it are seen exceedingly often, more accidentally, in persons who suffer from so-called abdominal plethora or from chronic constipation, etc., without it being necessary to attach any very great importance to the matter. More severe forms give rise already to some inconvenience, and other cases going by the name of "neuralgias" are explained by a venous congestion of this kind. In these cases the wearing of a well-fitting suspensory bandage is often sufficient to remove the complaints.¹ On closely questioning the patients,

¹Translator's note: It may not be uninteresting to mention in this connection the following case which is at the moment under my observation. A young man in a position to get married and engaged to a girl whom he loves suffers from a slight varicocele. He has been wearing at my

however, one frequently ascertains that individuals of this class are greatly given to sexual excesses in the form of masturbation as well as in that of unreasonable coitus. Young married men form a large contingent of this category of patients. It becomes then necessary to regulate somewhat their sexual life and to prohibit in particular the too frequent repetition of the sexual act. If consulted by candidates for marriage there is no occasion to regard this affection as a contra-indication; on the contrary, one is justified in anticipating from the more regular performance of the conjugal intercourse an improvement of the condition. The above-mentioned recommendations, perhaps in combination with hydro-therapeutic treatment, will as a rule prove sufficient; the advice to undergo a surgical operation (excision of the venous bundles) is indicated in a comparatively small number of cases only.

Neuralgia.—I have just mentioned the so-called neuralgia of the testicle as being in many cases an affection of a somewhat doubtful nature. But there are cases of pain in the testicle which cannot be included in this class, but which depend decidedly on simple hyperæmia, especially if frequent sexual irritations take place at the same time which do not meet with the necessary gratification. They are cases consisting of localised attacks of pain in the testicle as well as in the spermatic cord which reach sometimes almost unendurable proportions, constituting a typical "bridegroom's disease." This complaint is also experienced as a matter of course by young men who are

recommendation a suspensory bandage for some years, with the result that the varicocele has remained practically at a standstill. He wishes to get married and I am constantly telling him that there is no reason why he should not do so, and yet he is afraid to take the step because he cannot do without the suspensory bandage. When he takes it off his pain returns and he is obliged to put it on again, and for so long as this will go on he has decided to remain a bachelor. The consequence is that he is becoming more and more hypochondriac, he is tormented by the knowledge that his conduct towards the girl to whom he is engaged is reprehensible, and I am at a loss what to do for him. The idea of an operation has occurred to me, but the extent of the varicocele hardly justifies such a step, and I cannot even say with certainty that he will be able to do without the suspensory bandage if an operation is performed. Altogether this is one of those cases which do not go towards making a doctor's life a happy one.

in the habit of subjecting themselves to strong erotic influences, in such places as music-halls, "free-and-easies," and the like, and who yet refrain on principle from indulging in actual sexual intercourse. These are, by the way, the sole evil results which I have observed in connection with sexual continence, and they, too, arise under certain definite and avoidable circumstances only. Special treatment is in these cases, of course, not necessary, in most of them an appropriate earnest explanation is all that is needed. Medical advice in the direction of recommending a regulated sexual intercourse is, of course, indicated in the case of married men only; for the rest not only physical but also—what is more important—psychical continence must be enjoined.

2. *Diseases of the vesiculæ seminales. Disturbances in the discharge of the seminal fluid.*

Physiology of the vesiculæ seminales.—

The functions which the vesiculæ seminales have to fulfil in the physiology of the sexual activity are not yet clearly understood. It is still a doubtful point whether they serve exclusively as reservoirs of accumulated semen until the moment of ejaculation, and also whether the secretion produced by them exercises any influence on the vitality of the spermatozoa. This secretion constitutes at any rate a not inconsiderable part of the perfected seminal fluid to which it imparts its peculiar gelatinous consistency; the globulin bodies contained in it also account principally for the coagulation which occurs rapidly in semen when it gets cool, and for the stiffness of the stains which semen forms when it dries on linen. In examining the secretion expressed per rectum—it is easily recognisable with the naked eye by its small lumps resembling sago-granules—it will be noticed that the spermatozoa lie enclosed in these gelatinous masses and that they may for this mechanical reason alone appear quite immovable and rigid; where this is the case one must not immediately allow oneself to be misled into assum-

ing a real rigidity and an absence of vitality and generativeness.

Inflammations.—Whether inflammations of the vesiculæ seminales as such have anything to do with the fruitfulness of the semen is not quite certain. It is quite possible to imagine *prima facie* that even if these receptacles discharge a purulent secretion or are even closed and destroyed, a serviceable semen can still issue direct from the epididymis, vas deferens and prostate. Nevertheless, inflammations of the vesiculæ seminales must in this respect also be regarded as something suspicious; the addition of the inflammation-product and of blood to the spermatozoa seems above everything else to act detrimentally. With regard to pus this is established beyond doubt (*Lohnstein* and others). The presence of blood in the spermatic fluid (*hæmospermia*) is in spermatocystitis especially something exceedingly common. This symptom is almost regarded as a criterion in the differential diagnosis from prostatitis. Still we must not forget that sanguineous semen can occur without real inflammation as well. In some men it appears exclusively as a result of congestions, and an admixture with blood is seen sometimes especially after sexual excesses. The phenomenon causes to the patients extreme alarm, but it disappears as a rule after a short time with rest and the necessary care. In newly-married people especially such an occurrence is by no means rare, but the prognosis is, as long as there are no other signs of local disease, a favourable one. A careful local examination is, of course, a necessity; and one should never omit in these cases a thorough exploration per rectum as well as an examination of the expressed secretion or of the urine evacuated after the expression. Where there are signs pointing to an inflammation (tumour, pain, pus-cells in the secretion)—the case is more serious. Acute spermatocystitis requires rest in bed, a strict diet, morphia as a sedative for the painful spasms, the internal administration of balsams, aperients and complete continence. In chronic cases the treatment is similar to that of chronic prostatitis, and particularly massage as well as *Arzberger's* cooling of the rectum or an instillation of nitrate of silver may well be tried. As both diseases are almost without

exception of a gonorrhœic origin it is, of course, necessary to be on the lookout for possible gonococci. Even if the latter are not found it is nevertheless advisable in the case of a chronic spermatocystitis, which is sometimes the only and hardly curable residue of a gonorrhœa, to refuse the consent to a marriage partly on account of the danger of infection and partly because of the possibility of the marriage proving sterile.

Calculi.—A not very rare occurrence is the formation of calculi in one of the vesiculæ seminales; a quite characteristic symptom calls attention to their existence, namely an extraordinarily severe pain in the perineum and in the anus during ejaculation. The contracting vesicula seminalis presses tightly around the calculus. The pain is similar to that in stone of the bladder when during the evacuation of urine the last contractions of the bladder press the stone against the sensitive urethro-vesical orifice. Where such complaints are made it is necessary to think of this disease which, of course, requires operative treatment.

Carcinoma.—Cancer of the vesiculæ seminales hardly arises as a subject for consideration in connection with the subject of marriage, as it is, probably without exception, a part-symptom of carcinoma in other parts of the uro-genital apparatus.

Tuberculosis.—Of more importance is tuberculosis, not on its own account but because of the transmissibility, hereditary or otherwise, which we have to consider in this connection. It is apparently just from the secretion of the vesiculæ seminales that bacilli become mixed with the ejaculated semen most often. We cannot enter here again into the discussion whether an infection of the ovum and consequently a congenital tuberculosis can arise in this way, for my part I cannot regard this mode of origin as at all probable. Nor is it by any means established with certainty whether a maternal infection can arise through the direct introduction of bacilli into the female generative organs, but as this possibility has at all events been proved by experiments on animals, we must draw from this the practical precautionary conclusion that patients of this class must be prohibited from practising sexual intercourse. This prohibition is

moreover justified by the fact that the inflammation accompanying the tuberculosis is unfavourably influenced by sexual irritation and ejaculation.

Emissions: spermatorrhoea.—All the pathological conditions considered so far pale, however, in importance when compared with the disturbances in the ejaculation or in the flow of the semen which rest partly on nervous and partly on inflammatory causes. There is probably no doubt that the ejaculatory act is influenced to a considerable extent by the state of plenitude of the vesiculæ seminales. This process becomes perfectly intelligible if we examine into the conditions associated with normal nocturnal emissions. The expansion of the vesiculæ seminales acts in the absence of an inhibitory voluntary influence, reflexly on the central nervous system; the latter responds to the excitation on the one hand by giving rise in the region of the sensorium to dream-like pictures of an erotic character derived from the imagination or the store of memory, and on the other by producing vaso-motor and motor impulses which lead to erection as well as to contractions in the musculature of the vesiculæ seminales themselves and in the ejaculatory accessory muscles, the ischio-cavernous and bulbo-cavernosus. In masturbation and voluntary coitus this sequence is less apparent; here the primary irritative tension is sometimes absent, and the need arises for sensory excitations exclusively which are in the case of masturbation products of the imagination and in ordinary coitus the impressions of the senses of vision, touch and, perhaps, smell. In both these cases the excitation is, besides, increased by the tactile irritation of the sexual organs themselves. Ejaculation may therefore occur though the vesiculæ seminales are almost empty, and the fluid need not then even contain any more spermatozoa. On the other hand we must not forget that in the waking condition, too, the sexual desire may be irritated into action by the tension of the vesiculæ seminales, especially if we look upon that desire, according to *Moll's* classification, as a desire for detumescence.

These remarks lead to two definite conclusions. First, that under normal circumstances, or better said during rest, the closure of the vesiculæ seminales is complete and that a special

cause is always required to bring about their opening and to allow their contents to pass out; and secondly, that under ordinary regular conditions it is only certain definite and absolutely special excitations which can give rise to this opening process.

Deviations from the normal also occur therefore in two separate directions: either the closure is insufficient and a discharge takes place under conditions which in a healthy man are inoperative, or the contractions of the *vesiculæ seminales* are produced by nervous excitations which in a healthy man are equally unable to give rise to this result. The ultimate effect, namely a discharge of contents from the *vesiculæ seminales* is, of course, in both cases alike, except that in the first a more continuous flow takes place which is quite independent of matters sexual, while in the second ejaculations are produced in a manner and of a kind like those in the normal sexual act, but by inadequate excitations. Both these processes are frequently spoken of under the collective name of *spermatorrhœa*; it were better to restrict this designation to the first category and to include the second among the pathological emissions, or the premature ejaculations, and so on. Only in very advanced final stages can the latter condition eventually pass into the first, and lead to a continual discharge of semen.

If I have said above that normally the ejaculatory ducts are firmly closed and that they oppose the passage of the *vesiculæ* contents this must not, of course, be understood literally. Even in healthy men this closure can be overcome by mechanical means; as already mentioned strong pressure on the *vesiculæ seminales* brings to light almost regularly some of their contents, either in the form of a secretion oozing out from the urethra or mixed with the urine. For the rest the above statement remains available, and we must therefore regard it as something pathological if an examination of the urine reveals the presence of seminal constituents, provided, of course, that this is not due to premeditated rectal pressure or to a preceding emission or coitus. Such constituents of seminal fluid are most frequently demonstrable in the urinary filaments which remain behind after *gonorrhœa*. *Fürbringer* especially

has pointed out with the necessary emphasis that spermatozoa may be found in an enormously large number of cases of chronic urethritis. This is certainly not sufficient for diagnosing immediately a spermatocystitis, but at any rate an insufficiency of the ejaculatory ducts. Beginning with this first and mildest degree the affection increases gradually; in extreme cases the urine contains well-marked lumps of spermatic constituents; more rarely the latter issue in the form of a secretion through the urethral opening, and oftenest during pressure at stool or after micturition; in exceptional cases this takes place in the shape of a constant flow (spermatorrhœa in the narrowest sense) a process which denotes already paralysis of the compressor urethræ muscle. With the diagnosis of just these latter cases one must be particularly careful; it still happens that the clear stringy secretion of *Littre's* glands which comes out easily during erection is mistaken for genuine semen!

The cause of most of the cases of this description is in my opinion to be found in gonorrhœa. It is generally a question of inflammatory changes in the ejaculatory ducts, a fact which is demonstrable by the simultaneous occurrence of pus-corpuscles and bacteria. Primary nervous paralyses of the ducts are far more rare, they are met with most frequently in affections of the central nervous system, f. i. tabes, but such conditions of weakness often remain behind also after a complete disappearance of the inflammation; the history reveals then as a rule a preceding gonorrhœa. That such a weak state of the ducts can ensue in association with sexual self-abuse, especially after long continued masturbation, is not at all doubtful; I believe, however, that the number of cases of this class is far smaller than that of the first-mentioned. I have often been under the impression that the sexual abuse has been so to speak dinned into the patients frightened by the phenomenon till they have come to believe in it themselves. The connection with neurasthenia is also very likely in the majority of cases the other way about, that is to say, patients who are troubled with spermatorrhœa, or who imagine that they suffer from it, and those finally in whom it has been wrongly diagnosed by their doctors, become easily neurasthenic.

We see from this that not all cases of "spermatorrhœa" must be taken too seriously. Patients become alarmed by the bugbear of a threatened impotence as soon as they hear something about their condition, but it is possible in this respect to re-assure them in all conscience so long as they are in the initial stages of the complaint. The cases of purely inflammatory insufficiency of the ducts should be first regarded as a merely local disease and treated accordingly; it is here where local therapy, consisting of dilatation with bougies, mild or even strong cauterisations in combination with massage per rectum, shows most excellent results. *I even consider, so long as there is no danger of infection threatening, sexual continence as by no means absolutely necessary.* Candidates for marriage must naturally be recommended to postpone the event until all the inflammatory symptoms have disappeared, but where repeated examinations confirm the latter occurrence, if the urine or the secretion contains yet after defæcation or pressure only a few solitary spermatozoa I regard the complete prohibition of coitus as no longer justified. If the phenomena are more strongly developed, it stands to reason that the organs need rest and care; in the purely nervous forms especially sexual diet is an indispensable necessity. All other measures must be taken at the same time with a view to strengthening the affected organs; of local remedies I have derived most beneficial results from catheterisation with thick *Béniqué*-sounds, from the application of *Winternitz's* psychophor and *Arzberger's* rectal cooler, from massage, cold sitz-baths, with or without the addition of brine, whereas I cannot on the other hand say that I have been equally successful with the warmly-recommended faradisation through the rectum or the urethra. As to the extreme cases of continuous flow of the semen, they are decidedly an absolute contra-indication against marriage or the exercise of sexual intercourse, seeing that they are as a rule intimately associated with other disturbances in the innervation which affect not only the ejaculatory act but also that of erection.

At the commencement of the other series of development stand, as already stated, the excessive emissions. The line

of demarcation is difficult to determine; in a healthy normal man the occurrence of pollutions fluctuates exceedingly and is not bound to any settled rule, as it depends not only upon the physiological condition of the organs themselves, but also on the mode of life, diet and mental occupation with sexual affairs particularly. It is consequently impossible to lay down a definite statement as to the normal frequency of emissions at the different respective ages; some men hardly ever have any, while others, though otherwise perfectly healthy are plagued by them very frequently. The criterion of abnormality has already many years since been laid down by *Curschmann*; in healthy people the emission does not leave behind any abnormal sensations whatever, whereas those who feel afterwards exhausted and weak must be regarded as diseased. We must admit in the case of the latter a disproportion between excitation and effect; an irritation which remains ineffective in a healthy man, produces in them results which under normal circumstances do not arise, and this is a sign of weakness, of a hyper-excitability of the central nervous organs. This disproportion can keep increasing as time goes on. At the beginning erotic dreams occur in this connection, but later on they disappear; first the ejaculations take place during sleep only in the natural absence of the voluntary inhibition, afterwards they are caused during the waking state as well, by the slightest imagination of an erotic character, and finally by the mere sight of a female person and even through looking at or touching objects used by women, and the like. Sometimes ejaculations will be produced by mental impressions which a normal man can, often with great difficulty only, connect in any way with erotic excitations, or which are more likely to cause in a normal man just the opposite kind of feelings, such as disgust and nausea. Eventually the psychical element may disappear altogether, and purely mechanical irritations, such as the commotion caused by riding or driving, may have exactly the same effect. In such a case the ejaculation-centre is the only one exercising any activity, while the erection generally associated in the process becomes entirely eliminated. In the very last stages the real ejaculation itself apparently ceases altogether, and the affection

assumes the character of a proper spermatorrhœa. Here also the boundary-line is not a fixed one, and the transitions are numerous. Where the erotic irritations are uncommonly strong the motor reflex often overcomes the will-power-inhibition even in perfectly healthy men; thus *f. i.* one often hears young husbands complain that the ejaculation takes place before they have properly begun the sexual act; engaged young men are also often in their anxiety compelled to seek medical advice because during somewhat impetuous caresses which are not at all intended to lead to real coitus, the otherwise controlled ejaculatory-centres are no longer under the influence of their will-power.

At any rate we see that the nervous-psychical factor plays here the most important part, a circumstance which we must bear in mind above everything else in judging or when attempting to treat all these cases.

The mild forms are to be regarded as prognostically favourable, so long as there is no central causal malady at work. The irritable weakness which lies at the root of the frequent and exhausting nocturnal emissions and also at that of the premature and involuntary ejaculation can as a rule be influenced beneficially. In the former cases a suitable physical and mental regimen, especially inurement, sport, abstinence from alcohol, hydro-therapy, mountain-climbing, sea-bathing, the avoidance of obscene literature and exciting plays, etc., are sufficient to bring about an improvement in the whole condition. Nor is it necessary on principle to dissuade such individuals from getting married, provided there is no doubt about the diagnosis; one frequently observes that men who have "suffered" much from emissions remain permanently free from the complaint once they have entered upon the regular sexual intercourse of married life. The premature ejaculation in young married men I also regard as something common and I do not even consider that any special treatment is necessary, unless it be a psycho-therapeutic one consisting of re-assurances to the patient that he will get over the trouble in the course of time. As a rule the condition improves spontaneously; the prolonged habituation dulls sometimes the originally exaggerated sexual

excitement, and the reaction becomes less and slower. In very excitable and withal feeble-willed individuals an hygienic-dietetic treatment in the above sense is eventually indicated; in such a case a temporary separation from the wife should be insisted upon. Sometimes it may also be necessary to warn that the sexual act must be performed under as normal conditions as possible, and that no artificial exciting means whatever should previously be employed!

As considerably more serious I regard those cases in which emissions take place during married life and notwithstanding regular sexual intercourse. I always consider this a sign of high sexual irritability and weakness. The patients are apt to draw the conclusion that the occurrence of the pollutions is due to the fact that they do not perform the sexual act as often as their nature requires, and they accordingly increase their activity in that direction whereas they ought to do exactly the opposite. The correct thing is to spare the frequently irritated nerve-tracts (which respond already to slight forms of excitation) as much as possible. Sexual intercourse must therefore be restricted and a reasonable regular mode of life instituted so as to check the usually somewhat uniformly developed erotic tendency of these men.

The worst outlook is presented by those cases in which the ejaculation is produced by totally inadequate excitations, and here the prognosis gradually becomes more and more unfavourable in the manner described above. To some extent these phenomena fall in the domain of psychiatry, but unfortunately they are very little amenable to psychiatric influences. Partly they interest the physician too, as they are only too often accompanied by a general and severe bodily decay. They develop very rarely during married life, at least when the latter goes on under the ordinary normal circumstances, but are observed as a rule in *bon-vivants* of the worst description, individuals who having become, by habitual and prolonged over-indulgences of all sorts, sexually blunted to normal erotic influences, take refuge to constantly changing means of excitement until the whole of their nervous system, especially its sexual sphere, finally becomes completely shattered. Masturbators, in par-

ticular, whose sexual abuse is a practice so easily accomplished, form a large portion of this class of patients. It requires an absolute want of conscientiousness to recommend to such people marriage as a remedy for their condition. Quite apart from the psychical depravation which one encounters here almost constantly and which is bound to lead in the case of marriage to most revolting and unendurable consequences for the wife, we must not forget that physical impotence generally makes its appearance very soon; a paralysis of the erection-centres takes place finally in almost every instance and the performance of normal sexual intercourse becomes to these patients impossible in spite of their recourse to abnormal imaginary pictures.

I have not so far mentioned in connection with the treatment of these cases local therapy, whereas formerly much benefit was expected just from this method, chiefly because of the influence exerted by the sensational as well as exaggerated descriptions of *Lallemand*. One still hears the suggestion advocated now and then that in all these cases of abnormal irritability, that is in excessive nocturnal emissions, in premature ejaculation, and still more in emissions while in a waking condition, an energetic cauterisation of the posterior urethra should be undertaken as soon as conveniently possible.—The lunar caustic was for a long time regarded as the real sovereign remedy for the radical repression of the abnormal sexual irritability. I am in this respect entirely at one with *Fürbringer*, *Finger* and others whose attitude can be summed up in the words: "No local treatment without local disease!" In contrast to the cases of real spermatorrhœa which we discussed first we have here always to deal with nervous processes; there is no inflammation, no relaxation of the organs to be combated, but purely their abnormal irritability. There might be, at the outside, a certain amount of hyperæmia present, as to which it may also be a doubtful matter whether it is the primary element or rather the consequence of an exaggerated activity of the gland and of its ducts, and it might therefore be advisable to recommend here also mild hydriatic applications such as *Arzberger's* method, the psychophor, cold sitz-baths, cold irrigations and affusions.

I must, however, generally speaking, warn against the employment of real local treatment; the irritation produced by it causes as a rule the opposite effect to that which is desired. The medical man for instance who would be tempted to treat a candidate for marriage suffering from frequent and weakening emissions and who is afraid of losing his virility by cauterising with nitrate of silver the prostatic portion of the urethra, would only aggravate the evil, as pain and inflammation would thereby be caused and the treatment would in this way be productive of an increase in the sexually neurasthenic symptoms.

Aspermatism.—We must mention briefly yet another rare and characteristic affection of the vesiculæ seminales; occasionally such extreme contractions of the ejaculatory duct occur that the semen cannot be forced through it by the ejaculatory movements. The sexual act is thus not accomplished in the normal manner, but leads rather to extreme exhaustion. It is only much later, when the penis has regained its lax condition that the spasm ceases and the semen begins to flow out. We have always in these cases to deal with patients with pronounced neurasthenia; as to the treatment of the affection which is, by the way, only very exceptionally met with in married men, it must be carried out somewhat according to the principles laid down above.

3. *Diseases of the prostate. Disturbances in the constitution of the semen.*

Function of the prostate.—The functions of the prostate have through recent investigations, and especially through *Fürbringer's* careful observations been cleared up to such an extent that there can hardly be said to be any longer a doubt as to the participation of this organ in the generative act. The probability is, however, that this does not constitute its sole function. It has also a mechanical duty to perform in the closure of the bladder, and an internal secretion on its part cannot altogether be looked upon as a mythical impossibility. The main thing nevertheless is that it produces a juice

which forming quantitatively a very material constituent part of the spermatic fluid must manifestly influence greatly its quality as well. It is only by the addition of this juice that the semen obtains the necessary consistence; the spermatozoa which, while in the vesiculæ seminales were embedded in thick masses of gelatinous substance, become liberated from this durance and receive the requisite space for their life and movements; it is also highly probable that a chemical reaction also sets in which although unknown to us in all its details alters the "latent" life of the spermatozoa into a manifest one. The connection between the sexual organs proper, that is the testicles, and the prostate, is so intimate that they both commence their activity simultaneously during puberty, and an early removal of the testicles (castration) in animals and men prevents the further development of the prostate or causes it to shrink—a circumstance which has even been utilised as the basis of a method for treating hypertrophy of the prostate, a subject to which we shall return later.

From all this we see that the diseases of the prostate possess in relation to the question of matrimony and especially with regard to the fruitfulness of a marriage a highly eminent importance. This organ ought to receive more attention even than it has hitherto done as one of the principal centres of disease in the whole body, and its constitution and functional capacity should be investigated in every doubtful case.

Prostatitis.—The acute infection of the prostate hardly requires any consideration from our present point of view. With very rare exceptions it arises in consequence of an invasion of gonococci and constitutes an accompanying symptom of gonorrhœa. It is worth mentioning here solely because swellings and even suppurations of the prostate occur sometimes with surprising suddenness in married men and at periods when the gonorrhœa has long since appeared to be cured. Such an event gives rise to a suspicion that the disease is not yet at an end and is naturally, if the suspicion receives confirmation, of great influence in determining the method of treatment.

Of far greater importance, however, is the part played by

chronic inflammations of the gland. I will only recall briefly that this inflammation can take place in two ways: as a superficial catarrh of the ducts and as a more parenchymatous inflammation of the interior of the gland. These two forms which cannot always be sharply distinguished from one another have so much in common that we may well consider them under one head.

The main question is, of course, whether there are any gonococci present in the prostatic secretion. This must in the first place be investigated again and again. It is true that the microscopical examination of stained specimens is not always easy, and I recommend for this purpose the osmium-fumigation introduced by me. I have no doubt that by far the greater majority of all the cases of matrimonial infection are due to diseases of the prostate. If, where a wife is suspected of being infected with gonorrhœa, we examine the husband, it is only very rarely that we yet detect the trace of a fluid urethral discharge; we are also assured by most husbands, whose conscience is in this respect somewhat troubled, that they have always followed the medical instruction to irrigate the urethra by emptying the bladder shortly before each coitus, so as to wash out what secretion there might be in the urethral canal. It is only by examining the prostate and its secretion that we become enlightened as to the real seat of the infection, and even if we do not actually succeed in demonstrating gonococci we may well and justifiably entertain a suspicion of their presence from the presence of abundant pus-corpuscles. It is obvious that the infection takes place in these cases through the medium of the ejaculated semen, and it stands to reason that the above precautions are under the circumstances perfectly useless.

I am, however, of the opinion that non-gonorrhœic chronic prostatitis or prostatitis which is no longer gonorrhœic, can also be a source of danger in this respect. If there are any bacteria at all,—and it is the *bacillus coli* which frequently inhabits the prostate and vesiculæ seminales that is likely to play here the principal part—the possibility of an infection of the female genitals by means of the sexual act is thereby created, and although it is a less serious affection than gonor-

rhœa it may nevertheless give rise to catarrhs and superficial inflammations.

But in addition to the effect on the genitals of the wife the inflammation of the prostate has a further significance for the sperm itself. We have mentioned above the well-known action of the prostatic secretion on the spermatozoa; they are in absolute need of a normal prostatic secretion to enable them to develop their activity. Wherever there is suppuration of the prostate worth mentioning it seems that this specific secretion is absent. If the juice of the gland is in these cases examined microscopically one finds almost exclusively pus-corpuscles suspended in it, but there are none of the other constituent elements present, especially the characteristic lecithin granules, which, however, re-appear as a rule under successful treatment. It cannot be said definitely that the lecithin represents exactly the specifically effective substance of the prostatic secretion, but a connection is at least very probable, and we are at any rate entitled to assume that a secretion which is destitute of it is inefficient. Perhaps the pus itself, especially where there are yet abundant micro-organisms, also contains toxins—which, too, act injuriously. I am less inclined to agree with the view, recently advocated by *Lohnstein* especially, that the reaction of the prostatic secretion has alone a great influence upon the vitality of the spermatozoa. Why, there is even no unanimity as to what that reaction is under normal circumstances! My own experience induces me to believe that it is always slightly alkaline, and this agrees as a rule with the observation that the spermatozoa thrive best in slightly alkaline media, whereas slight acidity, and, of course, also strong alkalinity, kills them. We must therefore pre-suppose very considerable suppuration, if we desire to attribute the lifelessness of the spermatozoa to this cause. As a matter of fact one finds in the expressed prostatic secretion the spermatozoa which it occasionally contains, sometimes rigid and sometimes vigorously mobile. In this connection we must not forget that the rigidity is often only an apparent one, as the spermatozoa are embedded in the gelatinous masses from the vesiculæ seminales. The secretion deserves at any rate to be carefully watched. We may look upon chronic

prostatitis as a cause of sterility which can happily in some cases be removed by appropriate treatment. Included in the latter are especially the methods of treatment by mechanical and thermal remedies (massage, the application of cooling or warming apparatuses) and by absorbing substances (iodine, ichthyol).

If the question of the consent to the marriage of a patient with chronic prostatitis arises, the two points discussed so far must, as we have seen, be cleared up first. That the presence of gonococci in the secretion renders marriage impossible for a time is quite evident, and the occurrence of numerous other pus-cocci equally calls for serious notice. We must also bear in mind that the object of marriage may be frustrated since severer forms of prostatitis are capable of causing sterility.

But if all this does not apply, if after careful investigation and observation we are led to believe that the wife does not run any risk of infection, and that the fruitfulness of the sperm is not impaired, the question arises: Is marriage advisable as far as the man himself is concerned or should he be warned against it?

It is necessary here to separate somewhat more sharply the two forms of chronic prostatitis mentioned above. They are distinguished, apart from all local manifestations, quite prominently by their influence upon the general health and especially upon the central nervous system. In the simple superficial catarrhal form there is very little observed of this influence. The patient may at the outside, if he has been subjected to too exacting or too prolonged treatment, develop gradually into a sexual neurasthenic. The reason is because the treatment is directed in many cases of the kind to a vain issue; it is not always possible to remove entirely all the local residues of the morbid process; on the contrary, one runs the risk of causing general injury along with very little local benefit. Where the diagnosis is certain,—a contingency requiring, it is true, not only accurate observations but also extensive experience and practice—the marriage is in my opinion not only permissible but actually advisable. All these patients suffer from a certain lack of confidence in themselves; they are eventually pursued by

the hypochondriac idea that their prostatic affection might render them permanently impotent. If they marry, or if permission is given them to get married, the whole of their anxiety disappears as if by a single stroke. It is also indisputable that it is just these cases in which regular sexual intercourse is followed, locally, too, by eminently favourable results. With the application of the necessary medical care we have here in my opinion a condition to deal with in which we are actually entitled to look upon marriage directly as a remedy worth recommending.

The matter is somewhat more complicated as regards the second group, comprising the cases of real chronic parenchymatous prostatitis. On principle marriage might be considered here also as by no means dangerous, so long as there is no infectious discharge. But we must not in this respect overlook that there exists on the one hand even under most careful treatment a distinctly pronounced tendency to relapses, and that on the other the majority of the patients manifest already more or less serious consequences in their nervous or psychical spheres; they may very well to a great extent be designated as hypochondriacs. It is true that by suitable local and general treatment we are as a rule enabled to relieve or even to remove these complaints simultaneously with the local symptoms, but the inclination to relapses just mentioned makes the prognosis of the affection decidedly worse. If such periods of relapse occur during the married state, periods in which the patient is not only plagued by a return of the discharge, by pain during micturition and by persistent constipation, but in which he suffers from general depression amounting sometimes to suicidal tendencies, —if all this occurs in married individuals, their married life may undergo most serious perturbations. But then here also it is as well not to forget that the more regular mode of life, and the more uniform sexual intercourse which accompanies the married state are capable of exerting on these patients also a favourable influence.

It would be desirable in such cases if at all possible not only to form a medical opinion as to the state of the patient as such, but also to gain a knowledge of the external conditions under

which the marriage would be concluded. Favourable circumstances might possibly have to be regarded as a motive for permitting marriage whereas threatening poverty, sorrow and domestic unhappiness would contra-indicate it as likely to cause an aggravation of the patient's nervous complaints.

Hypertrophy.—Materially different than in the affections discussed so far is the duty of the physician in the presence of that disease of the prostate which is generally—though not with perfect justification—designated as the hypertrophy of the prostate. This is not the place to enter into a detailed description of the anatomy and symptomatology of the condition; besides, we are here principally interested only in the first stage of the disease which is distinguished mainly by congestive phenomena. During this period which extends often over many years, there is in addition to the real urinary complaints (frequent or painful desire to pass urine) in many cases also an unmistakable increase in the sexual desire which is at all events in striking contrast with the generally more advanced age of the patients. The latter experience a strong irritation, are often troubled by nocturnal erections, and they have a sensation that coitus would bring them relief. Of course, they are mistaken in this as a rule; there arises on the contrary a high degree of exhaustion in association with these excesses, and the urinary difficulties are in consequence rather increased. I am of the opinion that in all cases where somewhat older men manifest an increased sexual desire, the prostate should be examined even if there are no special symptoms calling attention to that organ. If it is found to be enlarged the performance of sexual intercourse and especially excess in that direction must be decidedly warned against. The congestion in the pelvic organs associated with the sexual act is undoubtedly injurious to the diseased gland. Attempts must be made to appease the sexual desire in other ways; luke warm sitz-baths, aperients, cold irrigations are useful remedies; but, if necessary, one should not hesitate to administer in these cases anaphrodisiacs, at least for a time; potassium bromide and also heroin are of very great service. Of course, everything which can excite the senses must at the same time be avoided; not only a physical but also a psychical

diet must in this respect be strictly enjoined! In the later stages of the disease the sexual desire usually diminishes and becomes extinct; nevertheless it is still observed sometimes in very old and decrepit patients. We must at all events think of its existence in every case, and we have herein a most serious objection against the treatment of hypertrophy of the prostate by means of castration, which was warmly advocated for a long time without any opposition. It does not need much persuasion to obtain the consent of the patient to the operation, desperate and tired as he is of constant catheterisation, and if the removal of the testicles is succeeded by the desired result he soon gets over the loss of his remnant of virility. But if, as it unfortunately too often happens the castration brings no relief, the situation becomes considerably aggravated. The mutilation for which no equivalent has been received is then taken very much to heart; and it may lead to deep melancholia or even to attempts at suicide. For this reason all sorts of attempts have been made with a view to leaving the patients under the impression that their virility is not entirely gone; the castration has been limited to one side only, ivory balls have been introduced into the scrotum in the place of the testicles, or the vasa deferentia have been excised so as to destroy the function of the testicles but not the testicles themselves;—all these measures have however proved futile, and on this account principally, sexual operations have gradually been eliminated from among the therapeutic attempts directed against the hypertrophy of the prostate.

Atrophy.—Atrophy of the prostate is seen somewhat more rarely in old people than hypertrophy. This affection does not possess any special symptoms of a sexual nature. It is only the consequential result, that is, the absence of the prostatic juice in the constitution of the semen which we have here to take into consideration. There is probably no doubt that an impotentia generandi is the outcome of these cases.

Tuberculosis ; carcinoma.—With regard to a few other diseases of the prostate (tuberculosis, carcinoma) I may refer the reader to what I have said above. Concretions occur, as is well known, in various forms; the smallest of them, which

have the shape of snuff-boxes, have not much to do either with the virility or the preparation of semen; larger stones can, however, obstruct the passage of the prostatic secretion on the one hand, and give rise on the other to pain during defæcation and micturition as well as during the ejaculation of the semen.

4. *Diseases of the urethra. Disturbances in the emission of the semen.*

The diseases of the urethra requiring consideration from the point of view of marriage and the married state are so pre-eminently of a gonorrhœic nature that there remains but very little to say about them on this occasion. Some of the congenital malformations, again, are discussed in another place in connection with diseases of the penis, particularly so the most important ones, epispadias and hypospadias.

Congenital stricture.—We may here call attention to the congenital stenoses of the urethra which occur not infrequently at the urethra orifice especially. If they are only slight, they have no effect worth mentioning on the discharge of the semen; it is only in extreme cases that they can arrest the latter almost completely. The ejaculation takes place with pain, and the semen is not shot out. This may constitute an obstacle to impregnation, and it becomes then unavoidable to perform the usually harmless operation of meatotomy. More rare are the congenital strictures of the deeper parts of the urethra; their treatment does not differ materially from that of the acquired constriction with which we shall deal later on, unless there are also other anomalies present at the same time, as for instance, atrophy of the penis and of the corpora cavernosa.

Urethrorrhœa.—A frequent cause of great anxiety is formed by a condition which must be regarded mainly as an abnormal secretion and which is characterised by a discharge from the urethral orifice (especially during erection) of a thin rubber-like viscid fluid. It occurs oftenest in connection with frequently repeated sexual excitement which is not succeeded by coitus, thus f. i., in young men engaged to be married. The individuals in question believe then that they suffer from some

inflammation or other, possibly from a recrudescence of a former gonorrhœa, or else they think they are troubled with spermatorrhœa; at any rate they are very much alarmed by the occurrence. The appearance of the secretion alone is sufficient to give an idea of its harmlessness, microscopical examination confirms the favourable view by showing nothing more than mucus-like threads covered with a few epithelium cells. The phenomenon is nothing else but a profuse secretion of the urethral glands, a so-called urethrorrhœa (*Fürbringer*); it is perfectly clear that there is no occasion to dissuade from marriage on that account.

Inflammation.—The real inflammations of the urethra are as already said mainly of a gonorrhœal nature. But there exists nevertheless a pseudo-gonorrhœa, that is, an infection with some sort of a suppuration-causing coccus or bacterium, belonging usually to the bacterium coli group. In the majority of cases these inflammations run quite an acute course; in fact they often heal spontaneously without any treatment. Sometimes, it is true, the process is less harmless and the symptoms may continue for a long time. In such a case I believe the affection to be due as a rule to a real contagion during coitus. If we admit this to be so, the conclusion follows as a matter of course, that these forms of urethritis though harmless in themselves must also be regarded as infectious, and that as long as they continue marriage must be prohibited. Even if their consequential results are less serious than those of gonorrhœa proper, it is yet probable that they can give rise at least to inflammations of the vagina, to leucorrhœa, and similar conditions. Let me observe in this connection that according to some authors genuine urethritis is not infrequently seen in association with masturbation.

Stricture.—To a considerably greater extent we are here interested in the real urethral strictures which though caused in the majority of cases by gonorrhœa may also be of traumatic origin, or, as already mentioned, congenital. One of the earliest symptoms of stricture relates to the sexual functions; in slight degrees already it causes pain during the passage of the semen, and as years often elapse between the conclusion of a

gonorrhœa and the formation of cicatricial constrictions this complaint is just one of those which are frequently met with in married men. This pain is clearly distinguishable from that mentioned above in connection with calculi in the vesiculæ seminales both by localisation and the time of its occurrence. It is not altogether pathognomic, as the same complaint of "painful delight" is heard sometimes also from neurasthenics and from people suffering from congestion of the pelvic organs. It is, however, advisable to examine the urethra in every such case with the bulbous sound or the endoscope and to look for eventual cicatricial contractions. In severer forms the clinical picture, apart from the urinary complaints, becomes still more characteristic; especially the seminal emission suffers more and more, until in the case of very narrow strictures it finally amounts to complete "aspermatisms," and the semen, instead of passing out of the urethra, flows backwards towards the bladder. This explains the enormous importance of strictures to the married state. Though the symptoms last mentioned do not occur very often, it is not possible when a stricture begins to form, to tell what its further course will be. If it is only for reasons of sexual capacity—though there be no others—we must endeavour to cause the disappearance of the cicatricial tissues as soon as possible. Generally speaking, the ordinary treatment by bougies suffices to remove strictures recognised soon enough, but great importance must be attached, in married men especially, to the point that the dilatation must reach really high degrees (by using eventually *Oberländer's* dilators) and that the patients present themselves at regular intervals for the purpose of control-examination. Unfortunately, judging from my experiences, married men neglect as a rule this salutary precaution of having themselves examined periodically, because the treatment is to them unpleasant or the visits to the doctor on account of such an affection rather uncongenial, and the result is that one often sees particularly in such married individuals suddenly-occurring and very serious aggravations of a neglected stricture. Sometimes one is compelled to adopt rather more stringent therapeutic measures just because a marriage may be contemplated. I recollect the case of a young man who sud-

denly made up his mind three days before the date of his wedding to have himself examined on account of his extreme difficulty in passing water. The doctor ascertained the presence of a stricture impermeable to even the finest sounds. I succeeded only with very great difficulty in passing the constricted spot and followed this up immediately by a dilatation according to *Fort's* method. In this way I managed to obtain in two days a dilatation up to No. 15 (French size). It is well known that traumatic strictures necessitate nearly always operative measures, into the details of which I need not enter here. Apart from the deterioration of the sexual activity the consequential results of severe strictures, such as the dribbling of urine, eventually the periurethral infiltrations, the formation of fistulæ, etc., are of so repellent a nature that this alone is capable of seriously disturbing the happiness of the married life. I may, perhaps, recall here that repeated observations seem to show that retro-strictural urethral fistulæ predispose to the development of cancer!

In women urethral strictures are notoriously rare and not directly connected with the sexual functions. Occasionally, however, we come across a peculiar condition known as "elephantiasis urethræ," which is probably sometimes a result of gonorrhœa and in which the entire urethra is surrounded by a rigidly infiltrated tissue; the lower wall especially seems very much thickened and, what is particularly noteworthy, is exceedingly painful on being touched or when irritated during the sexual act. The condition which is very troublesome on account also of the urinary difficulties, seeing that retention of urine may result directly from the thickness of the rigid walls, can be removed entirely by operation only. Interference with the sexual act may also be occasioned by a few other affections of the female urethra, especially the prolapse of the urethra and the fairly frequent so-called carunculæ which also require operative treatment.

Foreign bodies.—An interesting chapter in the study of sexual life is furnished by the subject of foreign bodies in the urethra. The introduction of such articles is notoriously on the whole a masturbatory act; the patients maintain as a rule

that they have recourse to the manipulation in order to relieve their urinary complaints, but these statements should always be received with suspicion as the procedure is in nearly every case dictated by sexual excitation rather than anything else. The act is therefore committed during puberty more than at any other time of life. Boys, and perhaps more frequently girls, introduce all sorts of objects—pencils, straws, rubber-pipes, hair-pins, etc.—sometimes with such dexterity, that one is surprised how such things could have passed in at all. (I once found, for instance, in the bladder of a young man a soft india-rubber tube 56 cm. long.) More important to our present subject are those cases where such “tricks” are played by adults and not by unripe youthful individuals. In a few instances of this kind I was able to prove that they undoubtedly rested on sexual perversity. From one gentleman I learned that, while in a state of drunkenness, he had had a needle introduced into his urethra by a prostitute. (Similar cases are recorded in literature.) This was obviously a case of sadism on the part of the woman; at other times when the procedure was carried out at the direct request of the gentleman in question we must suppose that he was actuated by a tendency to masochism (a sensation of delight through experiencing pain). Such things occur also from homosexual motives. (There is, f. i., the case of the students who introduced into the urethra of a drunken itinerant musician a thick piece of rubber-pipe.) Quite apart from the severe local manifestations which the foreign bodies are capable of causing (injuries, hæmorrhage, inflammation, calculi), the duty devolves upon the medical man of examining in every such case carefully into the sexual life of the individual in question. Even a form of masturbation alone, which has recourse to such means of gratification is suspicious; this is still more the case with the above-mentioned sadistic and masochistic acts. Where their presence is established those considerations will arise which are enlarged upon in another chapter of this work dealing with the subject of sexual perversion and psychical impotence.

Neuroses.—Let us finally mention briefly the occurrence of genuine neuroses of the urethra, especially of the prostatic

part, in which all sorts of complaints are made, such as are heard in connection with inflammatory affections or strictures. Since the improvement in our methods of examination this group has somewhat lost in importance; in very many cases of apparently purely nervous disease it is possible to detect their anatomical basis. Nevertheless, there remain a number of cases in which sexual irritation or sexual weakness also plays a certain part. Their conception and treatment coincide with those laid down with regard to sexual neurasthenia in other parts of this work.

5. Diseases of the penis. Disturbances of the erection.

Anomalies.—Among the diseases of the penis which are of importance in connection with the subject of marriage the congenital affections which refer to disturbances of development and formation claim our attention first. Mention ought also to be made here of that abnormality which occurs in the form of a very rudimentary development of the member, suggesting in the majority of cases its total absence, and which being associated with other defects of a high degree as f. i., the patency of the rhaphe, cryptorchism, etc., creates an outward impression of female habit of body. The question of marriage requires here consideration only if this female habit is so very strongly marked that a mistake exists on the point of sex. I have already called attention to these rare cases when discussing the abnormalities of the testicles.

More frequent and of greater importance from our point of view are those malformations of which the principal characteristic is an abnormal opening of the urethra either on the under or on the dorsal surface of the penis: hypospadias and epispadias. The higher degrees of hypospadias coincide partly with the conditions just mentioned if they constitute only part-symptoms of a general arrest of development. Here we shall consider the slighter forms first in which the penis is on the whole developed and the rhaphe closed with the exception of the one defect in the urethra.

Hypospadias.—A slight indication of hypospadias, that is, an opening of the urethra at the under surface of the glans, while the normal meatus is replaced by a blind groove, is not at all rare. One frequently sees such conditions quite accidentally in people who have no idea that there is something abnormal about their penis. No difficulty whatever in the performance of sexual intercourse need be apprehended on this account; erection takes place in such individuals with full force, the ejaculation is in no way hindered and impregnation is quite possible.

But if the seat of the hypospadias lies in the penile portion of the urethra proper the conditions are much more serious. In the first place the whole organ is here almost always in a state of stuntedness; it is small and shows a torsion downwards which does not become quite corrected during erection either. In this way the conditions requisite for the exercise of coitus are only imperfectly fulfilled, the patients complain regularly that the inefficient rigidity of the member causes them the greatest difficulties. There is, moreover, the question of impregnation which requires here most careful attention; if the urethral opening is situated far backwards it may happen that the ejaculated semen is not intromitted into the vagina at all but that it flows out again immediately. Although the opinion formerly held in this respect that a shooting of the semen right into the os uteri is indispensable has now been abandoned and although it is generally assumed that owing to the self-propulsion of the spermatozoa and their long vitality in a suitable medium, impregnation is possible even under apparently unfavourable conditions, still the chances are very much diminished and it is necessary for the medical man consulted with regard to the question of marriage, to lay the necessary emphasis on this point.

In the still severer forms in which the abnormal urethral opening is situated in the pars scrotalis near the perineum, sexual intercourse is probably always impossible; the two obstacles just mentioned, deficient erectability of the penis and discharge of the semen in front of the vagina are here so pronounced that marriage must be considered as out of the question.

An attempt must naturally be made if at all practicable to

remove the malformations of this kind by surgical operations. One can generally obtain in this way a closure of the urethral groove and a replacement of the meatus at the point of the penis, so that at least the difficulties in micturition are obviated. But the influence of the operation on the virile power must not be overrated; the deficient corpus cavernosum cannot be restored and the erection must necessarily remain a limited one.

We must remember, moreover, that hypospadias belongs to the distinctly hereditary malformations (*Orth*); a point to which attention should at any rate be called in connection with an eventual consent to marriage, even in cases that are only of a slight nature.

Epispadias.—Epispadias influences as a rule the virility to even a greater extent than hypospadias; in this affection, too, the corpora cavernosa are generally atrophied, the curvature of the organ during erection is, however, directed upwards. Of still greater importance is the observation that this anomaly is very often accompanied by further arrests of development; especially the non-closure of the symphysis and ectopia of the bladder are comparatively often noticed as higher degrees of this abnormality. One would think that marriage under such circumstances can hardly be thought of; not only the absence of erection on the part of the puny organ, but the whole disagreeableness of the situation, including the constant flow of urine and its consequences, admits of any other conclusion. And yet such cases do happen; *Dabrowsky* reports one in which the husband in question after fruitless attempts to 'cover the deficiency with artificial plates, simply put on a woman's skirt and very long boots into which the urine was allowed to flow constantly. The results of operations in ectopia and epispadias have recently become rather better on the whole; but here also we can reckon more on a durable closure of the abnormal urethral and vesical openings than on the establishment of an efficient virility.

Largeness of penis.—If the cases representing these two anomalies are, comparatively speaking, of rare occurrence, doctors are far more often consulted on other points which in themselves are not of very great consequence. The supposed

congenital abnormal largeness or smallness of the penis has here to be taken into consideration. The former is comparatively seldom a cause of trouble, but it does happen that patients complain, occasionally at least, that the big size of their penis causes them during coitus extraordinary annoyances. The immission is accompanied by the greatest difficulties, pain to the wife, premature ejaculation, etc. It is to be remembered that in these cases the abnormal size is observed during erection only when the blood-spaces of the corpora cavernosa are greatly distended. In my opinion the condition is mostly acquired and not congenital, and one that has developed gradually through an habitual hyperæmia caused by too frequent performance of the sexual act. Thus the phenomenon is seen principally in masturbators; it also occurs in individuals who have frequently indulged in sexual intercourse, but have remained abstinent during the time they were engaged to be married. The whole affair has generally no very serious importance, but it plays in connection with marriage in so far a rôle of some sort as defloration and impregnation may on this account be delayed for a very long time. Vaginismus also may occasionally be caused through this circumstance, and the often repeated fruitless attempts at coitus have generally a most depressing effect upon the wife, and still more so on the husband. Eventually the matter takes, however, as a rule a spontaneous turn for the better; it is only rarely that relative narrowness or abnormal rigidity of the hymen compels recourse to operative measures. A recommendation to apply cool affusions to the penis and, for the rest, to practise patience and quietude as much as possible is all that one can generally do in such cases.

Smallness of penis.—The abnormal smallness of the penis is of still less significance but can in so far lead to conjugal troubles as it may account for the absence of sexual gratification in the wife.

Phimosis.—More considerable disturbances may be caused by the existence of a congenital phimosis. Frequently overlooked during childhood, its presence often makes itself felt at puberty in a most disagreeable way, as erections give rise to a pulling of the prepuce which causes not only pain but

strong sexual irritation that seeks relief in masturbation, thus often establishing the habit. Sometimes, again, the tension of the constricted foreskin during erection is so strong, and the pain so intense, that sexual irritation becomes instinctively diminished, until erection disappears finally altogether and real impotence ensues. It is advisable to pay attention to these things in children and, if the phimosis is at all severe, to insist upon early circumcision, an operation devoid of all danger. We must also not forget that phimosis can easily form the starting-point of a number of other disorders as well, f. i., balanitis, preputial calculi, etc.; inflammation may eventually result in para-phimosis; and extreme phimosis may also produce aspermatism.

Para-urethral passages. Fistula of penis.—

Of other malformations in the neighbourhood of the urinary meatus or on the glans we have to mention the para-urethral passages. Their existence has in reality nothing to do with the virility or sexual intercourse; they are only worth considering, because such patients easily fall a prey to gonorrhœal infection of which they do not get rid even after the cure of the urethral gonorrhœa proper, so that a matrimonial infection may eventually proceed from them, an occurrence which is not exactly very rare. Almost the same may be said with regard to the abnormality designated as double urethra or congenital fistula of the penis. This is a condition which presents channels that traverse the whole length of the penis taking their origin in the region of the symphysis and opening as a rule close above the urethra. The genesis of this malformation is not quite clear. It is generally discovered only when the canals have become accidentally infected with gonorrhœa, when the treatment is attended with the greatest difficulties. I was obliged in one case to have recourse to excision, which, however, in its turn left a disagreeable consequence; the resulting scar proved to be a most serious obstacle to cohabitation as it dragged the penis too much upwards.

Injuries.—That injuries, blows, bites, contusions, etc., can cause most severe damage to the penis is well known. Apart from the profuse hæmorrhage which may result from them,

they are all accompanied by the danger that the easily yielding tissue of the corpora cavernosa will be replaced by scars which may render erection entirely or partially impossible or at least cause such pain as to constitute in this way an obstacle to cohabitation.

Fractures.—As a special form of injury we must mention the so-called fractures of the penis, in other words ruptures of the corpora cavernosa which occur mainly during erection, not infrequently in consequence of too eager and awkward coition-movements on the part of young husbands, especially if the intercourse is attempted in an unusual position. A violent pain sets in all of a sudden; the erection disappears almost in a moment; the penis appears swollen and suffused with a dark-blue discolouration. Strangely enough, the prognosis of these injuries is not a bad one, provided the urethra is not torn at the same time. With rest and cold applications the laceration heals up, the blood is absorbed and after a few days or weeks even the erective faculty is usually completely restored.

Amputation.—Amputations of the penis lead, of course, to distressingly painful results if the necessity arises to perform the operation during sexual maturity on account of wounds, ulcers, or tumours. The sexual desire is not diminished, the remaining stump gets erected, and married men have been known to make use of very small portions that were left behind, though intercourse so exercised is bound to be attended with very great discomfort.

Inflammation.—Inflammatory diseases in the structure of the penis are probably as a rule of a gonorrhoeic origin; they commence as peri-urethral suppurations and often extend, if not incised soon enough, to a most alarming degree over the erectile tissue. Their residues also form scars which prevent erection. Usually these abscesses are situated on the under-surface of the penis; and it is there where the scars form, giving to the organ when erected the characteristic "post-horn" shaped curvature, or chorda venerea. It is therefore of very great importance from the point of view of the subsequent faculty for coitus that peri-urethral suppurations should be subjected to early and careful treatment.

Induration.—We must differentiate from these scars the indurations known as plastic indurations or “plaques indurées,” which are seen on the dorsal surface of the penis and which generally begin near the root of the organ. We have to deal here with more or less marked ossifications which appear first in the septum intercavernosum. In severe cases this ossification may consist of a thick bony ridge extending the whole length of the dorsum of the penis. The etiology of these conditions which, it must be pointed out, have nothing to do either with gonorrhœa or syphilis, is in an extraordinary number of cases connected with diabetes and gout, although it is not as yet clear wherein the association consists. Many observers feel inclined to look for the cause in sexual abuse. These indurations inconvenience the patients during erection only, when they occasion pain and when they can also, as I have seen in one case, give rise to cohabitation-troubles. Treatment is not of much value; the condition does not yield in the least to absorbent remedies or baths (water, fango, mud), etc. Where it does yield, the probability is that there was a mistake in the diagnosis. One is tempted to try operative measures, although the resulting cicatrices cause here also serious disturbances. Still, there have been successful cases reported. (*Galewsky.*)

Carcinoma.—With regard to tumours, we are here interested principally in carcinoma, which attacks the penis comparatively rarely. It is clear that where the diagnosis is certain, operation is the only available remedy, hard as it is to decide upon this mutilation in sexually mature men, especially if they are married. If the consent to the operation cannot be obtained the marriage or sexual intercourse respectively must be strictly prohibited, not only for general hygienic reasons or for the protection of the diseased parts, but also because of the possibility that particles of carcinoma may be implanted in the female genitals. On the whole, I am rather sceptical on the point of the contagiousness of the disease, and am of the opinion, as stated elsewhere and also in a previous passage of this article, that most of the reported cases will not stand serious investigation. I cannot, for instance, see in the simultaneous occurrence of cancer of the penis in the husband and cancer of the

pinna in the right ear of the wife (case of *Berger*) more than an accidental coincidence. But as cases are reported now and then—f. i., the well-known case of *Czerny-Tross*—of cancer of the penis occurring simultaneously with cancer of the portio vaginalis, the possibility of contagion must at all events be borne in mind. One must therefore not only prohibit the husband from having intercourse with his wife if he suffers from penile cancer, but he must also be warned against such intercourse if the wife is affected with cancer of the cervix uteri!

Tuberculosis.—Tuberculosis occurs on the penis in the form of small tumours (which appear occasionally as cysts); if they ulcerate the danger of infection is of course very considerable. The same may be said with regard to lupus of the penis, a very rare affection.

Impotentia coeundi.—We have hitherto considered chiefly the mechanical obstacles to cohabitation in so far as they render erection difficult or impossible. We shall now turn our attention to another group of cases, practically, perhaps, of still greater importance, in which the organs themselves appear perfectly healthy, but in which erection, the indispensable preliminary of cohabitation is nevertheless absent; in general terms we should therefore say that in these cases the nervous impulse is either wanting or impaired and that they are manifestations of the so-called nervous impotentia coeundi. It is advisable to distinguish here two main groups according to whether there is a psychical element in the symptoms or not. In the former case the sexual desire as such is either absent or insufficiently pronounced; there is no normal sexual desire for woman. In this group are included all the forms of sexual perversion which are dealt with in another chapter of this work and with which we are not concerned here. In the cases forming this group it is not the intermediary nervous apparatus which is at fault, but the disorder lies in the central organ; as soon as the latter is acted upon by excitations which are adequate to it—though abnormal in themselves—the perfectly normal effect on the genital apparatus takes place. In the forms to be discussed on this occasion there is no congenital or acquired defect in the central organ, but it is the reflex effect of its irritation which is

absent. It is, of course, very difficult to eliminate here altogether the psychical factor; in just these cases psychical obstacles are often very prominent features. Nevertheless the fundamental difference is very evident; the individual who is really psychically impotent is insusceptible to every normal irritation by the opposite sex, whereas the nervous impotent does experience a normal sexual desire, but he cannot transform it into action at all or he can do so only under certain conditions. We can therefore speak of an absolute and a relative nervous impotence.

Impotence is physiological as a rule before the development of puberty and in old age. It is true that erections are often seen in children, but the question is, whether they are due to sexual excitement, or whether they are the result of mechanical irritation such as is produced by phimosis, eczema, or intestinal worms, etc. There are, at all events, precocious boys in whom a sexual desire becomes manifest long before the commencement of the sexual maturity, that is before the production of a spermatogenic fluid capable of causing impregnation, and that desire generally assumes the form of masturbation. This evil and its consequences interest us here in so far as the premature sexual abuse gives rise occasionally to a weakening of the genital apparatus, which diminishes considerably the subsequent virility. As a rule young men who are otherwise healthy get over the period of masturbation without any ill-results; the fear of the consequences is generally worse than the consequences themselves. Candidates for marriage very often present themselves before the doctor in great perturbation a few days before the wedding, when they are only too ready to confess their early transgressions; in the majority of cases it is possible to re-assure them fully with regard to their virility.

On the point of the extinction of the virile power in old age, it is equally impossible to lay down any generally applicable rules. Just as the spermatogenesis may in some old men go on up to a very advanced age, so the faculty of erection and consequently that of cohabitation may, at least apparently, remain unimpaired for a surprisingly long time. There is,

however, one circumstance which often shows itself in this connection and which plays an important part in other forms of nervous impotence as well. Erections frequently take place in old men, either through erotic imaginations or dreams, or even without these, generally in the morning, perhaps, under the influence of the full bladder; they conclude from this that they are perfectly potent, but when they wish to put this potency to the test they find to their disappointment that they have none. As already mentioned, I have frequently heard this complaint from men with enlarged prostates. This is a circumstance to be borne in mind in those not very rare cases where very old men, mostly widowers, contemplate marrying again, relying upon this apparently sufficient faculty of erection. Scepticism is here always justified; after marriage this false virility as a rule disappears very rapidly.

In individuals whose age falls within the period of sexual maturity proper, the conditions are also very variable. Here also we not infrequently come across relative impotence. This refers in some cases to candidates for marriage whom anxiety compels to consult their doctors; they have never felt quite confident about their virility, which they have never, perhaps, in their lives tested practically, and in order to satisfy themselves have made an attempt at coitus, but without success. If they are otherwise healthy individuals, and if homo-sexual proclivity can, above all, be excluded, it is permissible to assume that a psychical inhibition, caused by anxiety, worry, and, perhaps, also by the disgust at the mode of beginning, has prevented the occurrence of erection. One may conscientiously in a case like this re-assure the patient completely and promise him full success in his married life, provided the inhibitory illusions can be overcome. It also happens that married men who are otherwise sufficiently capable, come to their medical advisers with a confession that in their occasional lapses from conjugal fidelity their power of coitus fails them entirely; in their case, too, the inhibition is a purely psychical one, similar to that which *Goethe* has described with such accuracy in his "Diary."

More difficult to judge are those cases in which the patients

complain of a quite gradual extinction of their virility while retaining fully their sexual desire. Among these there also are, especially in young married men, favourable cases; they rest sometimes upon too great a demand on the sexual capability which is succeeded by a condition of fatigue. The spermatogenesis itself is present, though, perhaps, somewhat weaker; the sexual excitation is not extinct; the desire is rather more pronounced, but the erection-centre does not respond to the reflex irritations at all or only slightly. These conditions disappear rapidly, a short period of rest, if possible away from the wife, combined with the use of roborating baths, cold friction, dorsal affusions, etc., restores the vanishing virility soon enough, but it is imperative to warn against similar abuses in the future.

The prognosis is considerably worse where after prolonged excesses—a term, it is true which admits relatively of the widest individual interpretation—the virility diminishes slowly. These cases have no connection whatever with the production of semen that goes on as a rule quite undisturbed; they announce, however, their advent very often by phenomena of irritable weakness, premature ejaculation and repeated emissions; the psychical condition is in no wise affected; there is at first no absence of erotic desires, but they become impaired gradually through the constantly failing attempts at cohabitation. Naturally these cases do not occur as often in married men as in bachelors with a somewhat stormy past, but they become of special importance to the married state when such individuals whose virility is of a reduced order, contract matrimony, as is unfortunately very often the case. If such married men are examined more closely, it is generally discovered that they suffered from the symptoms already before they were married, and that they married in the hope thereby to regain their former virility. Patients of this class belong as a rule to the category of neurasthenics; the question is only in which way they acquired the disease. There is at any rate no doubt that the neurasthenia is partly due to the sexual excess, as no matter how little we believe in the origin of central diseases on this basis, neurasthenia certainly does arise in such a manner. To a further extent, however,

the patients are individuals who have become neurasthenic for other reasons, such as primary disposition, mental overexertion, etc. In their case the danger that sexual excesses will eventually claim their revenge, is doubly great; what might in other individuals lie, perhaps, as yet within the limits of normality possesses in men thus predisposed the character of something excessive. At all events, it means that we must regard the occurrence not as a solitary affection, but as part and parcel of a general malady which requires consideration in the first instance. The prognosis can be declared with the greatest reserve only. Sexual neurasthenics of this sort are easily relieved, but difficult to cure. At the beginning of almost every case treated, the treatment is followed by an improvement in the general condition, and even in the local complaint. The return of the morning-erections particularly is duly noticed and reported, but as soon as the suggestive influence of the treatment is gone, there is often no further progress. It is clear that in treating these conditions the general treatment must be distinguished from the purely local. The former is always indicated, the latter not always. I cannot enter here into a consideration of the different modifications of the anti-neurasthenic treatment in general. What can be achieved here by dietetic rules, by sportsmanship, baths and mineral-water cures, is well known, and it is just as well known that in these cases particularly, routine treatment is injurious and that each case must be treated on its merits after a most careful examination of the whole body. The most difficult thing to decide is the question whether any medicinal remedies should be employed or not at the same time. In addition to the general roborants, such as iron, manganese, etc., and the sedatives, such as the bromides, there are a number of remedies which enjoy a reputation for specific action. Especially arsenic in large doses is considered to be effective in this respect, and even in lay-circles and in literature this drug is known to play an important part in connection with this subject. I may recall for instance the "pillules Jenkins à base arsénicale" in *Daudet*. It is, however, universally recognised that the beneficial result is nothing but a passing stimulation and not a real improvement, and that the momentary

rise is usually succeeded by a still deeper fall. This applies to an even greater extent to cantharides which is probably no longer prescribed by any physician in such cases. As to the other so-called aphrodisiacs, nux vomica, phosphorus, ergotin, etc., it is sufficient to barely mention them; on closer observation one will hardly ever obtain permanent results from them. I must, however, devote some little space to two remedies because the patients generally ask for them; in fact many are in a position to narrate their previous experiences on the subject. I refer in the first place to the injections of testicular extract introduced by *Brown-Séquard*. In this original form the preparation is hardly ever employed any longer; it is now administered either internally as a medicament under the name testiculin or some other such appellation, or as Sperminum-Pöhl. Personally, I have never been able to satisfy myself about the efficacy of these remedies in cases of loss of virility, but I wish to point out that *v. Pöhl* himself does not attribute to his spermin any specific properties, but regards it exclusively, and in my opinion rightly so, as a general excitant and nervine.

The other remedy is yohimbin, prepared from the yohimbene leaves which are regarded in Africa as decidedly aphrodisiac (*Spiegel*). It must be admitted that experiments on animals (*Löwy*) have demonstrated that congestions in the genitals and erection can be obtained by means of this remedy. I have already prescribed it by now in a sufficiently large number of cases, but must confess that I have somewhat modified my former very favourable opinion of the drug. What strikes me particularly, is that there is hardly a patient who consults me with regard to impotence that has not already tried yohimbin among the many different unsuccessful remedies; the high price of the preparation causes the disappointment to be felt still more keenly. Nevertheless one does see now and then favourable results, and I believe that we are still ignorant of the differentiation in the indication. The remedy is probably useful in some cases, but in others, or rather in the majority, it is absolutely useless.

What has been said so far refers principally to the general treatment. A local treatment is in addition indicated in my

opinion in those cases only where we have reason to assume that the neurasthenia has really developed from the sexual organs. Even in this case I believe only in the most reserved methods of treatment; every artificial over-irritation is sure to be followed by a still severer depression. The first prescription includes therefore complete rest of the affected organ; there must be no attempt whatever to perform sexual intercourse. The patients, especially married men, cause themselves great injury by forcing such attempts upon themselves every now and then, and often by the aid of very unsuitable irritants, such as alcohol, etc. The amount of physical and moral damage produced by these fruitless irritations is altogether incalculable! In milder cases, the prohibition of intercourse is, as is well known, alone sufficient to obtain a cure; not infrequently the prohibition is after a time and under favourable circumstances disregarded and the lost self-confidence is in this way regained permanently. This plan is greatly to be recommended in the case of married men.

Of real local methods of treatment I place in the front rank the hydriatic and thermal stimulants; applied in the shape of *Arzberger's* rectal frigorifics they can at any rate do no harm. *Winternitz's* psychophor necessitates the introduction of an instrument into the urethra, and is therefore not quite so harmless, but its suggestive effect is a materially greater one. In addition to these, I almost always recommend sitz-baths according to the resisting power of the patient; at first they are ordered continuously warm and with the addition of a little salt (about 28° C. and 4 lbs. of salt); gradually they are allowed to be taken colder and containing more salt (up to about 22° C. and 8 lbs. of salt) or in the form of cold plunge baths of short duration. From electricity I have seen less favourable results; the form in which I apply it by preference is that of induction-currents with the introduction of one pole into the rectum and the other placed against the symphysis or—more rarely—into the urethra. The massage of the external genitals, recommended by several writers, especially by *Zabludowski*, I do not consider on account of the obvious danger of masturbation free from objectionable features. Massage of the prostate would appear to be indicated only when this organ presents some mani-

fest changes. The same thing applies in a very marked degree to the cauterisations of the urethra, especially of the colliculus seminalis, which is applied sometimes quite indiscriminately. I am firmly convinced—and the same opinion has repeatedly been expressed by such eminent authorities as *Fürbringer*, *Finger*, and others—that just in these cases of sexual neurasthenia or neurasthenic impotence far more injury than good is done by local therapy, unless the latter is applied with the most careful discrimination. Other proposed measures, which sound even more adventurous still, such as the resection of the dorsal vein of the penis, etc., we may well leave out of consideration altogether.—The various purely mechanical supporting-apparatuses (*Gassen* and others) or bandages (*Gerson*) may, perhaps, be given a trial in such cases where the procreation of offspring is a matter of great moment; judging from the opinion of competent authorities they succeed sometimes in achieving at least the desired result.

I should like to point out again, though it is hardly necessary to call attention to it specially, that one must not by any means be too hasty with the diagnosis of sexual neurasthenia in cases of commencing impotence. It is imperative to make sure in every individual instance by careful examination whether there is not a central nervous affection accountable for the trouble. It is well known, that especially tabes, and also general paralysis of the insane, develop at times in such a way that a stage of extreme sexual irritation is sooner or later followed by one of paralysis which is ushered in with a diminution in the virility. It is evident that the conception and treatment of the cases undergo thereby a considerable modification.

Priapism.—Materially dependent upon spinal changes is finally the not very frequent phenomenon of priapism, if we understand by the term involuntary erections totally unconnected with sexual excitement. The individuals affected with this most troublesome complaint imagine as a rule that they can obtain relief by the performance of cohabitation; this is, of course, not the case; the often repeated intercourse is on the contrary injurious and the patients must be distinctly warned against it.

6. Diseases of the bladder.

There is not very much to say about the diseases of the bladder in their relation to the married state. In man especially they play a minor part and a few general observations will therefore suffice in dealing with them.

Cystitis.—As regards first the inflammation of the bladder, the so-called vesical catarrh, we know now that an infection is necessary for its production, but this infection can only take effect if it meets a soil made suitable by congestion, retention trauma, or similar causes. Among the opportunities for infection we must place foremost the one which favours gonorrhœa, that is, generally speaking, non-connubial intercourse. It is therefore quite clear that unmarried men supply the largest contingent of sufferers from cystitis. If the disease does break out in a married man the suspicion of gonorrhœa is nevertheless justified. There is unfortunately a vicious circle often observed in these cases—the husband infects the wife and she in her turn infects him again. An increased congestion is also sometimes here an important causative factor. The cases are by no means rare in which an apparently extinct gonorrhœa—extinct even in the opinion of a medical man—breaks out afresh soon after the consummation of the marriage and leads at once to cystitic phenomena. The continued sexual irritation has evidently prepared the soil. At other times a predisposing condition is supplied by an irritating constitution of the urine, brought about by dietetic errors. One would feel inclined to expect in this regard a different and protective effect from the regular life of the married state. It happens for instance very often that some individuals suffer after partaking of new and insufficiently-fermented beer from quite acute and rapidly passing irritative symptoms with exceedingly violent vesical tenesmus, and one naturally observes this occurrence far more frequently in bachelors given to a less regulated mode of life. At any rate, it is easier for married men to adopt the necessary dietetic prophylaxis.

It stands to reason that sexual intercourse must be prohibited

in all cases of acute as well as chronic cystitis or restricted as far as possible. This part of the treatment must on no account be forgotten, and if for no other reason than this, it is often advisable to separate husband and wife by sending the former to some institution or watering-place.

Of far greater importance however is the participation of the bladder in some diseases of the abdominal organs in the female sex.

Vesical troubles during menstruation and pregnancy.—Many women suffer from urinary troubles during menstruation even under normal circumstances; in fact the advent of the period often announces itself first of all by an increased desire for micturition and also by a burning sensation while passing urine. These slight disturbances disappear immediately after the cessation of the period or in the course of it, and do not require any special treatment. The disturbances on the part of the bladder during pregnancy are on the whole also of a physiological character; they are mostly the results of the pressure which the pregnant and anteriorly inclined uterus exercises on the bladder and urethra, and disappear, too, after the termination of the pregnancy. We must not, however, forget that such a condition may easily lead to an inflammation of the bladder, predisposed as the latter is to become affected through the congestion and the pressure. It is therefore advisable in every case where a woman complains continuously and seriously to institute an examination of the urine (by catheter). The treatment of pregnant women suffering from cystitis is by no means a simple matter. If at all possible it is best to confine oneself to internal remedies: urotropin or similar preparations are borne most easily, while sandal-oil is on account of the usually present nausea contra-indicated. Local treatment is generally to be avoided so as not to run the risk of bringing on a miscarriage through the irritation, but still there is often no other cause open, and especially catheterisation must frequently be resorted to for the reason that, along with the inflammation—or even without it—retention of urine may occur. Where internal remedies do not suffice to clear the urine, and where there is the slightest

suspicion that the bladder is imperfectly evacuated local treatment is indicated. Usually boracic irrigations are sufficient, otherwise weak silver-solutions may be prescribed in the first instance; on the other hand, the instillation of strong silver solutions, which, judging from the clinical picture one would feel inclined to employ by preference, is on account of the above-mentioned risk contra-indicated.

By means of warm baths and vaginal irrigations it is also possible—provided there are no contra-indications—to exercise upon the complaint a beneficial influence. It is only in rarer cases that narcotics are required. As to sexual intercourse it is at all events imperative to insist upon abstention where there are cystitic symptoms present, though there may be a difference of opinion as to the admissibility of such intercourse during pregnancy altogether.

Vesical troubles during labour.—It is doubtless often possible to cure the cystitis of pregnant women after the termination of the labour, that is, as soon as the severe causative mechanical disturbances have disappeared. But on the other hand the labour process as such presents a not inconsiderable danger to the bladder. In the first place retention of urine may result at the beginning of the labour through the compression of the head against the symphysis, and the retention may in its turn, if it lasts too long, prove an obstacle to labour through the excessive distension of the bladder. The application of the catheter—which, by the way, is not always easy of accomplishment is here absolutely necessary. Then, the strong pressure of the child's head against the urethra may cause injury to the latter which may result in incontinence of urine. Similarly, the employment of forceful extraction, especially with the help of forceps, may give rise to such partial gangrenes of the urethra or of the sphincter vesicæ, to the formation of vesico-vaginal fistulæ, and so on, contingencies into which we cannot enter here at great length. A most frequent result of labour is also a retention of urine which though not a serious occurrence in itself and one that can easily be remedied by catheterisation may become a serious complication through the possible addition of an infection of the bladder. Under the

circumstances prevailing at the time, especially if there be profuse lochial discharge, the necessary asepsis of the catheterisation-process is exceedingly difficult to obtain, and the protection of the bladder from cystitis is a very uncertain one. It is at all events advisable in such cases to administer urotropin prophylactically and to apply local treatment as soon as there are the slightest signs of a cystitis. We unfortunately see pretty often chronic cystitis developing in association even with normal labours, and as a matter of fact I am inclined to look upon these cases as the principal contingent of vesical catarrhs in women.

Vesical disturbances and diseases of women.

—In addition to the disturbances occasioned through pregnancy, labour and child-bed, we have yet to mention those which depend directly from diseases of the female genitals. It is well known that displacements play an important part in this connection; especially prolapse is generally accompanied by a cystocele which may in its turn cause an obstruction to labour. Besides, the female bladder generally participates in the whole list of troubles which are produced in the true pelvis by inflammation and supuration. It is, perhaps, not yet sufficiently known that one can frequently by an illumination of the bladder obtain the first information as to the existence of such diseases. The chronic inflammation reacts on the region of the neck of the bladder by a lymphatic and sanguineous congestion giving rise to the more or less pronounced picture of "œdema bullosum." Exudations arch forward the vesical wall, cicatricial contractions (old, parametritic indurations, etc.) fix it and give rise occasionally to real diverticula ("traction-diverticula" as I am in the habit of calling them from the analogy of those which occur in the œsophagus). In a word, the bladder is to a considerable extent affected by all the evils which appear in married women (mostly through gonorrhœal infection), and although its treatment does not constitute the primary object, yet it must never be forgotten that vesical troubles are often helpful in leading one to a correct diagnosis. As a matter of fact it is astonishing how many women seek medical treatment for this complaint alone, whereas a proper examination only reveals the true cause of the trouble. I saw a typical example

of this class only a short time ago in a young sixteen-year-old girl who was sent to me on account of extreme urinary difficulties suggesting vesical calculus, and in whom I detected on examination a perfectly healthy bladder but complete atresia vaginæ with hæmatocolpos.

Enuresis.—I wish to add here the description of a complaint which, though in itself neither serious nor dangerous, can, nevertheless, assume great importance in relation to the question of marriage: I mean enuresis nocturna. In children this affection is regarded more as an inconvenience (unfortunately sometimes still as a bad habit) and if the various internal and external remedies employed fail, one consoles oneself with the thought that the disagreeable complaint will in the course of time disappear of itself. Frequently this is the case; it does happen, however, that the trouble resists not only all treatment, but that it persists in spite of the age becoming more mature or that it even becomes worse as time advances. The matter begins then to wear a serious aspect. There are young girls in whom an involuntary evacuation of the bladder takes place regularly every night once or even several times, so that travelling, sleeping at hotels, and so on, becomes an absolute impossibility. Every possible thing is done, especially in view of a contemplated marriage, to put a stop to the nuisance, but unfortunately the condition is often extremely obstinate. In a case of this description in which I tried all the dietetic measures, all the well-known inner remedies and some of the local procedures (dilatation of the urethra, application of cold, cauterisation, etc.) recommended, without obtaining any relief, I decided to perform the operation suggested by *Gersuny* of twisting the axis of the urethra—but, although I did the operation twice, the success was only a temporary one extending over a few months only. In some cases greater success was achieved by paraffin injections. Recently epidural injections have also been recommended by some (*Cathelin*, *Strauss*, and others).

Of still greater significance than involuntary passing of urine is, of course, permanent incontinence, that is, the constant dribbling from the urinary meatus. These cases are generally the result of injuries at the neck of the bladder, of vesico-vaginal

fistulæ, if not of a perforation of carcinomatous ulcers, and the necessity of an operation is then imperative. One should not, however, forget the extremely rare possibility of an abnormal opening of a ureter into the vagina, which can also cause permanent wetting while the bladder undergoes characteristically enough at the same time the process of filling and emptying at almost normally regular intervals. In these cases, too, operative proceedings are stringently indicated, although they are connected with very great difficulties and are often highly unreliable.

Calculi.—I do not want to leave unmentioned in this connection the calculi and foreign bodies of the bladder. In the male sex calculi do not play a very great part from the point of view of the sexual function; the pain and the hæmorrhage, though, are increased through sexual excitement and the prohibition of intercourse is therefore indicated. Generally, however, it is hardly necessary for the doctor to give instructions on the point, as the patients themselves who are in the habit of referring the pain arising from the calculi to the tip of the penis soon learn to avoid erection and ejaculation. In the female sex vesical calculi are of importance in their relation to the labour-act. I have already mentioned above that cystoceles are capable of obstructing labour; if there should happen to be in one of them one or more calculi (I remember a case in which there were found at the post-mortem in a cystocele 36 cuboid-shaped calculi of triple phosphate) this obstruction may become very serious indeed. There have been cases described in which the nature of the obstruction was not by any means clear and which were about to have Cæsarian operation performed on them, when a calculus was suddenly and spontaneously "born." In view of the great dangers which arise in this way to the wall of the bladder, and particularly on account of a possible perforation, it is at all events advisable if there should happen to be during a pregnancy the slightest cause to suspect the presence of concretions, to institute immediately an examination with the sound so as to remove eventually the obstacle in good time.

As to foreign bodies and their relations to the sexual life

I have already discussed the subject in detail when speaking of the diseases of the urethra. I may once more point out that it is at any rate in many cases a question of masturbation and that it is the duty of the physician when coming across such incidents—and they occur in married individuals as well!—to investigate into the sexual life of the persons concerned.

Tumours.—Tumours of the bladder need to be considered here from one point of view only: it is well known that their chief symptom is profuse hæmorrhage which ceases, however, after a few days. Men are generally very much alarmed by this and they apply for medical advice as a rule after the first attack. In women, however, it is possible for the hæmorrhage from the urethra to be mistaken for menstruation, so that the symptom passes without receiving due attention. The physician must therefore think of this, too, and notice whether there is any blood in the urine.

Tuberculosis.—As regards tuberculosis of the bladder we have to say the same as was said with respect to the tuberculosis of the uro-genital apparatus as a whole: Though direct infection by means of the sexual intercourse has not been proved, the possibility of its occurrence must nevertheless be conceded and a warning issued in this respect. But apart from this, sexual abstinence is strictly indicated in tuberculosis particularly, because every congestion and irritation aggravates the complaint.

In estimating the influence of marriage on diseases of the bladder or the importance of vesical troubles, no matter of what kind, in questions relating to married life, the following circumstance is finally of the greatest significance: We have not only a local disease to deal with, but must always remember that during and by marriage especially an extension of the trouble must be feared. No one who suffers from a catarrh of the bladder is sure that the process will not spread to the kidneys as well. And it is this point which requires consideration in connection with the contraction of marriage. In men the danger is after all not so very great—but still the consent to a marriage should not be given where there is pronounced cystitis present, until a cure has been effected; similarly such consent should be

withheld in cases of stone of the bladder until an operation has been performed, and in tuberculosis and tumours absolutely. In women the position is even more serious; in their case we have to take into account not only, like in men, the disease and the possible shortening of the life-duration, but also the dangers which arise in consequence of pregnancy. One is therefore at all events bound in all the conditions enumerated above to prohibit absolutely the occurrence of conception!

XX

**Diseases of Women, including Sterility in
Relation to Marriage**

XX

DISEASES OF WOMEN, INCLUDING STERILITY, IN RELATION TO MARRIAGE

By **L. Blumreich, M.D. (Berlin)**

The basis of every community in the widest sense of the word is formed by the family. A glance at natural history shows us that the single individual represents but an incomplete part of the species. It is only by the association of two individuals, sexually differentiated, that the organic whole is created which represents completely the type of the species. Man and woman regarded as single beings are nothing but two inter-dependent halves of one unity. Without the fusion of the two individuals each of whom is provided with different sexual instruments, the species would die out, so that from the biological standpoint, marriage is not an end in itself, but must needs regard the propagation of the species as its object.

Husband and wife, the two halves of the conjugal unity, are constructed differently from one another in many respects both morally and physically, and it is precisely in this differentiation of their qualities that the mutual attractions of the sexes lie. The difference is most markedly pronounced in those organs which are intended to serve for the preservation of the species, the so-called genital apparatus, and it is the integrity of these copulative organs and their sound condition which constitute the foundations in the fulfilment of the object of marriage, in the fusion and mutual supplementation of the sexually single beings and in the procreation of the offspring.

The reciprocal relations between the female sexual organs and the married state are numerous and important; important, because certain complaints are entirely due to conditions prevailing chiefly in the married state.

In the consideration of the various groups of diseases we shall, generally speaking, have to base our remarks upon the following questions:

I. In how far are the factors of married life as such to be regarded as causes of the diseases in question?

II. Are the diseases in question influenced favourably or unfavourably by the factors operating in married life and peculiar to it?

III. What reaction have the diseases in question on the course of the married life?

- a. By obstructing or preventing cohabitation,*
- b. By producing sterility,*
- c. By influencing pregnancy, labour and child-bed,*
- d. By conveying the disease to the husband,*
- e. By conveying the disease to the children,*
- f. By hindering the wife in her capacity as head of the household.*

IV. Under what circumstances is marriage to be prohibited in the presence of the diseases in question?

Treatment deviating somewhat from this method of subdivision is required by the first two chapters: "Injuries of the female genital organs through cohabitation" and "Diseases of the female genital apparatus through abnormal sexual intercourse (coitus interruptus, preventive or anti-conceptional coitus, coitus inter menstruationem)." These chapters will therefore be taken separately in the consideration of the relationship between marriage and diseases of women.

I. Injuries of the female genital organs through cohabitation.

That injuries of the vulva and of the vagina which have repeatedly led to subsequent severe abdominal diseases and even to death have resulted in by no means very rare cases from the act of cohabitation as such, physiological though it be, is comparatively speaking a fact not sufficiently appreciated by non-

gynæcologists. Text-books on forensic medicine generally support the view that the dull force of the in-rushing penis is hardly capable of producing severe injuries especially in the deeper parts of the genital organs, and that where such injuries are alleged to be due to simple coitus, it is more likely that they are the result of violent manipulation, digital or instrumental piercing, and so on. *Veit* also considers an injury to the vagina through coitus alone possible only where it (the vagina) is quite abnormally misformed or cicatrised through definite pathological processes, but especially where it is atrophied in consequence of old age.

No doubt in a number of cases violence during intercourse cannot be excluded and is even probable; in a larger group, however, nothing more seems to have happened than a mere destruction of tissue caused by the impetus of the membrum virile. Surprising information in this direction is furnished by the interesting compilation of *Neugebauer*. This author has collected 157 cases of more or less serious injuries to the female genitals; an imposing figure, indeed, if we bear in mind that necessarily very few observations of this class are published. Since then a number of further cases have been communicated.

What importance must be attributed to these injuries is shown by the fact that in 22 out of these 157 cases death ensued, partly as a direct result of hæmorrhage, partly through supervening parametritis, perimetritis, sepsis, etc. In most of the cases it was more or less profuse hæmorrhage that induced the injured persons to seek medical assistance, and this hæmorrhage was in about half the number of all the cases so severe that firm plugging of the injured tissues, acupressure or suture had to be resorted to.

The best-known of these hæmorrhages are those caused through the defloration-rupture of the hymen in the first night which necessitate occasionally medical aid on account of the difficulty to arrest the bleeding, or for the purpose of treating the anæmic consequences resulting sometimes from the severe loss of blood. Though the diagnosis is in these cases ridiculously easy, the situation is both to the doctor and the married couple in question a most embarrassing one, and a

great deal of tact and decent self-possession is needed to induce the young and newly married wife to allow herself to be subjected to the necessary manipulation. A thorough examination of the bleeding spot is essential as in every more or less serious hæmorrhage, especially if pallor or other signs of acute anæmia are manifesting themselves, and can only be made with the thighs well separated, with the genitals uncovered, and in a good light; most careful cleansing and irrigation of the parts with some disinfectant is indispensable. Should the hæmorrhage not cease upon the application of firm pressure with an antiseptic gauze-tampon—which is, however, in the ordinary radiated lacerations confined to the hymen, nearly always the case—it becomes necessary in more parenchymatous hæmorrhages to effect acupressure or if a blood-vessel is spurting, to secure it with forceps and apply a ligature. That most scrupulous asepsis is essential goes without saying. These severe hæmorrhages in injuries of the hymen, where the wound does not extend into the neighbouring tissues, arise either from an abnormally great vascularity of the hymen, or are due to hæmophilia. If the latter is the case, there are generally some anamnestic data pointing in that direction. As far as I know there has been a case of death reported in association with isolated hymeneal ruptures, which occurred in a newly-married wife (*Tardieu*). In that case hæmophilia had several times been observed in the family of the young woman.

On the whole, however, the prognosis of these lacerations is a very favourable one; if the bleeding is arrested and an infection of the small wound prevented, healing takes place within a few days. It is noteworthy that among the numerous cases of *Neugebauer* there are only 10 mentioned in which such injuries of the hymen with considerable hæmorrhage took place during coitus and where there were not other parts injured as well; in other words, an insignificant minority. The reason is probably that such comparatively unimportant cases are not published, unless the hæmorrhage is downright of a life-threatening character.

The prognosis is unequally more serious in extensive injuries of the genitals. The lacerations of the hymen which extend

beyond its limits and affect the neighbouring parts of the vulva and vagina, are the most favourable among these injuries. Of great importance are then longitudinal ruptures of the vaginal wall (curiously enough these are almost without an exception situated on the posterior and right walls). The posterior vaginal curve particularly appears to be predisposed to deeper ruptures; in a fair number of cases this wall, along with its pelvic connective tissue, was to a considerable extent laid bare by the copulative act, and four times the tear of the posterior wall continued as far as Douglas's pouch, which means that the abdominal cavity was opened.

What terrible lacerations and destructions of tissue can under certain circumstances take place through the violent impetuosity of the attacking penis, can be seen from the cases in which a penetration occurred of the structures lying between vagina and rectum or between the external genitals and the perineum or the rectum, cases which thus developed recto-vaginal, recto-perineal, and recto-vulvar fistulæ with passage of flatus and fæces through the vagina, often with complete fæcal incontinence. In some of these cases the hymen itself remained intact and the injury affected only the neighbouring parts of the vulva, frequently with the formation of a false passage into the soft parts. Several times the urethra was also ruptured and vesico-vaginal fistulæ resulted from the coital injury, at other times extensive hæmatomata formed in the labia majora with or without injury to the soft parts.

Such a result from coitus I saw myself about a year ago. The case related to a woman 42 years old who had had 4 children and upon whom coitus was forced by her drunken husband. She stated that she had offered violent resistance and thrown herself about so that the penis of the husband did not enter into the vagina for some time but kept striking against the external genitals. All at once she experienced an acute pain and being completely exhausted succumbed to her husband's violence. There was no hæmorrhage. The next day I discovered a fluctuating hæmatoma, about the size of a hen's egg, in the upper third of the right

labium majus; the soft parts were not found to be injured. Absorption of the painful extravasation took place only very gradually in about four weeks.

One would imagine that injuries during coitus occur principally at first cohabitations. But this is not at all the case; very often the most considerable destructions of tissue have happened in women who have for years been in the habit of practising intercourse, and even after one or more preceding labours.

The lower classes naturally supply the main portion of the patients thus injured, but it would be wrong to assume that individuals belonging to the higher strata of society do not participate in these severe traumata. On the contrary, the women thus injured recruit themselves from the different classes, and *Neugebauer* points out that among his 157 cases there were, strange to say, two wives of medical men.

Of great importance to our subject is in these injuries during coitus the question of the predisposing factors. From the cases observed it is possible to establish quite a number of such factors which favour the occurrence of these coital injuries. I do not, of course, include rough violence such as accompanies all acts of rape and which is capable of causing more or less severe injuries especially when the persons attacked are children. Closely allied to rape is the exercise of coitus during a state of intoxication of either one or both sides, as the regulating and moderating inhibition on the part of the mind is here absent altogether or at least materially reduced. In the coital injuries occurring especially among the lowest ranks this etiological factor is one by no means to be underrated.

Of importance are further malformations of all sorts in the hymen and in the vagina, hymen biforis, a very carnosus and abnormally firm and hard hymen such as is seen in elderly virgins; a too small opening in the hymen, the absence or imperfect development of the vagina, closure of the vagina through cicatricial contractions, septa, double vagina.

Several times gynæcological operations at the vagina had been performed a short time previously, f. i. colporaphies, plastic perineal operations and even vaginal total extirpations.

An etiological element is further seen in the puerperal con-

dition of the vagina. I have seen a case of this kind, where twice-repeated coitus on the 16th day of the puerperium led to an oblique rupture in the posterior vaginal wall $2\frac{1}{2}$ cm. long by $\frac{3}{4}$ cm. deep. As there was a sharp though rapidly disappearing pain immediately after the second coitus, accompanied by a slight hæmorrhage, the married couple in question became rather alarmed. The examination revealed a laceration which was not in this case very considerable. That the vaginal wall is easily lacerable in the third and even in the fourth week after labour is shown by *Calman's* tabulation of the cases in which interruptions of continuity were caused by even skilfully conducted gynæcological examinations.

As accounting for the lacerations in the posterior vaginal wall especially, the backward displacement of the uterus which causes a considerable tension in the posterior curvature of the vagina, is frequently mentioned as a predisposing factor.

Equally, vaginismus, that is a spasm of the introitus vulvæ and of the voluntary muscular mass of the pelvic floor, has been observed, though rarely; further a spasmodic state of contraction of the entire smooth musculature of the bladder, rectum and vagina and also of the vaginal cavity. (*Schäffer.*)

Then, abnormal positions during coitus, such as half-sitting or half-standing, or coitus *more bestiarum*, etc., have been made responsible for the occurrence of these injuries.

In the communications published after that of *Neugebauer* great stress is laid upon one point particularly, a point which *Warmann* was the first to call attention to emphatically. While relegating to a second place the usual explanations, such as the disproportion between vagina and penis, abnormal position during coitus, vulnerability of the vaginal mucous membrane, etc., *Warmann* puts in the front place the particularly intense sexual excitement of the wife. For the occurrence of the very frequent uncomplicated vaginal lacerations the increased sexual irritative state is both a preliminary condition and a cause. All other factors deserve only a secondary importance. This opinion of *Warmann* has several times been confirmed. (*Bohnstedt, Ostermayer, Hermes.*)

How this increased irritability in the wife favours the occur-

rence of the lacerations *Warmann* does not explain. *Bohnstedt* points out that a convulsive condition of the entire musculature of the pelvic floor with tension of the vaginal curve such as was found by *Schäffer* as a cause and referred by him to neuro-pathic propensities, is, perhaps, produced by a specially intense excitement of the wife, becoming thus a link in the chain.

The supposition that the orgasm is capable of causing such a spasm of the musculature as can in its turn lead to the consequences described cannot be dismissed straight away.

But that the sexual over-irritation of the wife during coitus possesses almost exclusive significance in the causation of this kind of injuries, I am inclined to doubt. If this view were correct we should far more often ascertain such deep interruptions in the continuity than we do at present.¹ I rather believe—an opinion which is shared by *Schäffer*—that the excessive sexual irritation of the participating wife plays an auxiliary, though by no means unimportant part,—perhaps through the medium of an extended spasmodic condition of the musculature—but that several factors coöperate as a rule which as stated above are different in their origin.

From this opinion arise consequently certain indications for the prevention of coital injuries. It should really be unnecessary to mention that the husband ought not to force his wife in a rough and violent manner to gratify his passion, and thus to subject her to influences which may under certain circumstances prove disastrous to her genital organs, but the by no means rare disclosures and complaints of female patients seem to show that the necessity does exist.

The husband of one of my female patients who had been brought, through the treatment of his chronic prostatitis by a urologist, to an extraordinarily high sensual state of irritation, threw himself for many weeks several times daily upon his wife and demanded from her imperatively to submit to his will heedless of the time of day

¹The question is, of course, as *Warmann* truly points out, of great forensic importance. If the injuries to the vaginal walls are really caused by the sexual over-excitement of the woman, rape would be excluded in all those cases where they constitute the only symptoms present.

or the unsuitability of the occasion. Although the result was not like in the previous case which I mentioned, an injury to the genitals, no less serious consequences arose in the young and sensitive though somewhat frigid wife throughout the married state. The patient developed besides neurasthenic symptoms of fright, a deep resentment against the husband to whom she had originally been very much devoted.

Intercourse during intoxication or semi-intoxication is also one of the excesses which must be strictly avoided, although it is worth mentioning that in slight weakness of the virility or in frigidity of the husband or wife a preceding opulent meal with a moderate allowance of alcohol often renders cohabitation possible, or transforms what is to one or both sides an irksome duty or habitual act, into a union of real enjoyment. (See *Fürbringer's* article.)

More severe malformations such as atresia of the hymen or of the vagina, absence or imperfect development of the vagina, etc., are diseases which make themselves apparent in the virgin already in the form of disorders of menstruation. As we shall see when discussing these diseases individually, certain indications make it incumbent upon the medical attendant who is consulted by a young girl or her parents with a view to giving his consent to a contemplated marriage, to make a gynæcological examination, and should he find any of the malformations mentioned, his duty is to utter a warning accordingly.

Where there have been any preceding vaginal operations, especially plastic ones, conjugal intercourse must, of course, not be indulged in before the formation of hard and resistant cicatricial tissue. An abstention-period of 5 weeks from the operation is probably the minimum required; very often a certain amount of debility in the wife necessitates a further postponement.

The same thing applies to the puerperal period. The involution of the sexual organs cannot be regarded as completed before the lapse of six weeks, and on account of the vulnerability of the mucous membranes the conjugal intercourse must be suspended during that time. If special circumstances, for instance

pronounced nervousness of the married couple in consequence of imperfect gratification, render the medical veto impracticable, there is, perhaps, no objection in permitting the resumption of the intercourse a few days earlier or a week at the outside, as long as it is carried out very carefully and tenderly, provided the puerperium has been an absolutely normal one and the general condition of the wife is especially favourable. Acts of bestiality such as I have seen in a case at the maternity-clinic of the Charité Hospital, where the paramour in question who lived by the earnings of his mistress, forced her to submit to coitus after the commencement of the labour-pains and again on the fourth day of the puerperium, are in all probability extremely rare among the middle and upper classes.

Where the wife is subject to vaginismus and an entrance of the male member into the vagina is thereby rendered impossible, force must on no account be used to overcome the resisting muscular spasm.

It is often necessary to speak out clearly and without circumlocution. I have frequently come across cases in which the young husbands regarded the unattainable copulation as an ignominious proof of imperfect virility for which they tried every possible means except the most obvious one, namely suitable treatment of the wife by an experienced medical man.

Abnormal positions of one or both of the partners performing coitus have, especially in combination with intense sexual excitement, so frequently been demonstrated as elements in the causation of injuries, that I desire to say a few words on the subject.

We must not forget that the unusual position during coitus plays in mild disorders of the male potency a certain therapeutical part. *Zabludowski* is right in recommending, "where one has become used to his partner," the exercise of the sexual act in some novel and hitherto not used position, f. i. the lateral, as by this means new associations and mental representations and new impulses are created. It is also usual under these circumstances to apply such measures as facilitate the performance of the act say, thorough oiling of the male member as well as of the female genitals. Where such premeditated changes in

the position are adopted for therapeutic reasons it is permissible to withdraw one's objection on account of the possibility of injury, and to recommend special caution, oiling of the parts and the avoidance of force.

It is, however, quite different as regards those not very rare cases where unbridled passion and perversion suggest the employment of the most bizarre situations. Here the doctor cannot point out too strongly the risks of injury, and his duty is clearly to condemn what is unnatural and under circumstances dangerous, although his words may be spoken to deaf ears.

II. Diseases of the female sexual organs through abnormal sexual intercourse.

(Coitus interruptus; employment of anti-conceptional remedies; coitus inter menstruationem.)

Diseases of the genitals after interrupted intercourse.—A form of cohabitation prevalent among the widest circles of the population is the so-called coitus interruptus or reservatus, by which term is understood the withdrawal of the penis from the vagina immediately before ejaculation. The object of the procedure is to prevent conception, and that object is obtained if the process is carried out thoroughly. The arrangement does not require any previous preparations of a disagreeable or inconvenient nature such as are demanded by the application of a preservative or the introduction of a protective pessary; nor are irrigations necessary afterwards in order to remove the semen deposited in the vagina—all these manipulations which to a sensitive woman especially present most objectionable features.

It appears that in Biblical times already, interrupted intercourse was practised. The act of Onan with his brother's wife was really not masturbation, but rather the withdrawal of the membrum virile shortly before the commencement of the ejaculation. The passage in Genesis (Chapter 38) says: "And Onan knew that the seed should not be his; and it came to pass

when he went in unto his brother's wife, that he spilled it on the ground, lest he should give seed to his brother."

As regards the effect of this form of cohabitation upon the nervous system I refer the reader to the chapters: "Sexual Hygiene," and "Diseases of the Nervous System in Relation to Marriage." Here we have only to consider the point whether and how far disorders of the female genital tract can be produced by the interrupted form of intercourse.

The literature on the subject is exceedingly sparse, and that is easily understood if we bear in mind how difficult it is to ascertain whether in any given case a disease of the female sexual organs has arisen exclusively through interrupted coitus and not also by other concurrent influences. Besides, we are here as a rule dependent almost entirely upon the statements of our patients, and every experienced doctor knows what important part is played, especially in women, by any consciously or unconsciously acquired prominence of an alleged injury. If we wish to make sure about something, we require a prolonged period of observation and careful notice of all the possible etiological factors concerned, the estimation of the results of treatment, etc.

The theoretical opinions on the physiological effect of interrupted coitus are not quite uniform. *Krafft-Ebing* maintains that in natural intercourse a relatively rapid emptying of the overfilled vascular system of the genital apparatus takes place after ejaculation. But this is different in interrupted intercourse. Here the increased vascularity is not succeeded by the normal depletion, and a detumescence of the blood-vessels takes place only gradually. If these temporary congestions are repeated frequently and over again, a chronic accumulation of blood forms in the genital tract which in its turn leads to severe alterations in the tissue of the various parts of the sexual sphere. *Eulenburg* sees the damage more "in the inhibition of the influence of the automatic-reflex chain of irritation."

As a consequence of the permanent congestion in the genital tract produced by the interrupted form of intercourse, *Goodell* describes a case of pronounced elongation of the cervix uteri. Influenced by this communication *Valenta* pursued the same

reasoning, and he now attributes to the reserved form of coitus, in which term, by the way, he includes coitus proper as well as the application of condoms, an extraordinarily great significance.

"Every gynæcologist comes across women who have during the first few years of their happy married life given birth normally and in rapid succession to 2 or 3 children, and whose other circumstances are equally favourable, but who, nevertheless, belong to that category of women who are rightly styled the plague of gynæcologists. They are mostly hysterical individuals who though of an age which is considered the most suitable for procreative purposes, have suddenly become sterile. This sterility is more and more accompanied by the well-known host of hysterical manifestations, and the patients get gradually so nervous that they become at last a burden to themselves and to their husbands and are compelled to seek medical advice everywhere and for a long time in vain for this constantly growing nervousness. Objectively, the examining physician constantly finds in these women who had previously never known the word 'nervous,' an intense hyperæmia of the somewhat sensitive and evidently enlarged uterus, accompanied as a rule by erosions round the os and by easily bleeding ectropional ulcers and a very profuse vagino-uterine secretion. If interrupted coitus continues to be practised the prognosis must be declared as unfavourable. The nervousness naturally increases with advancing age to an enormous degree, and if in addition religious scruples and self-reproaches make their appearance, regular insanity may eventually develop. Not infrequently this is the unmistakable basis of incurable and absolutely fatal diseases of the sexual organs. Judging from my experience I believe, I may say positively, that this factor supplies at any rate a fair percentage among the women suffering from fibroma or carcinoma uteri." A similar opinion is expressed by *Kisch* who has found among the consequences of a long continued coitus interruptus chronic metritis with the character of a relaxation of the uterus, retroflexion or antelexion of the uterus, catarrhal affections of the mucous membrane, inflammation of the ovaries, and perimetritis. He also considers the point worth discussing whether the striking increase in the number of cases

of new growths at the female genital organs noticed at the present day has not some causal connection with the practice constantly becoming more and more general in all circles, of employing anti-conceptional remedies. Equally, *Mensinga*, *Veit*, *Runge* and others attribute to the interrupted form of coitus great importance as the cause of a large number of chronic inflammatory affections.

In summarising my own experiences gathered by the aid of suitable material, I may say that it is impossible to give a general answer to the question of the injuriousness of a prolonged practice of interrupted coitus. We not infrequently see women who admit having carried on this practice for many years, and in whom there is no sign of any of the above-mentioned chronic inflammations of the uterus. In other women, however, there seems to lie in the circumstance an important etiological factor of severe inflammatory infiltrations in the genital apparatus. In some isolated cases, indeed, I think I may assume with certainty that the very severe chronic metro-endometritis present as well as other less severe sexual diseases, had no other basis but the abnormal form of intercourse, if I may judge from the unsatisfactory results of the usual therapeutic measures and the subsequent gradual improvement in the condition after the discontinuance of the irregular mode of coitus.

If we inquire more closely with regard to the first group, we often learn that the libido sexualis of the women in question is not at all pronounced, a circumstance, by the way, consonant with the generally lesser sexual desire of woman when compared with that of man, as pointed out emphatically by *Hegar*, among others, in his "*Geschlechtstrieb des Weibes*" (The sexual desire of woman). These frigid women have generally endured cohabitation—in the normal form too—as an act of conjugal duty only, but not as a pleasure. I believe therefore that the interrupted coitus is injurious to the genital system of those women only who are disturbed in their sensation of delight by this form of cohabitation, in whom the orgasm is not produced and who continue for hours subsequently to be tormented by feelings of an unsatisfied desire. In my opinion, which agrees with that of several others, the interrupted coitus has exactly

the same effect as coitus generally which passes off without gratifying the female partner, either because the husband suffers from premature ejaculatio seminis which occurs before the sexual orgasm has appeared in the wife, or because the latter is by some disorder or other deprived of this orgasm.

One thing I wish to emphasise, namely, that in women who do not feel sexually gratified, in whom sexual intercourse—in the normal form—does not reach its real physiological acme and its satisfying conclusion, and who are married to relatively impotent husbands, the same consequential conditions appear. These are not therefore phenomena characteristic of interrupted coitus, but consequences of an imperfectly concluded sexual cohabitation as such. Less sensual and frigid natures are spared the troubles mentioned, no matter whether the intercourse is interrupted or whether the ejaculation of the semen occurs prematurely. On the other hand in sexually hungry women the interrupted course of the conjugal embrace with its accompanying feeling of ungratified desire will, if continued for a length of time give rise to the diseases spoken of, when it is immaterial in which way the absence of gratification is occasioned.

Diseases of the genitals after the employment of protective remedies.—The other methods of preventive sexual intercourse are also capable of causing sometimes considerable injury to the female genital apparatus. Hither belong especially the protective pessaries frequently used by women and frequently introduced by them alone; the one nearly always employed is the so-called Mensinga-pessary, a hollow semi-sphere of india-rubber to the free border of which is attached a springy steel ring covered with india-rubber. The hollow sphere is slipped over the portio, the ring, which must correspond with the size of the vagina, presses against the vaginal wall and is thus held in position, while closing the upper portion of the vaginal canal and the os uteri against the semen deposited in front of the pessary.

If the pessary corresponds exactly with the width of the vagina, and is introduced by the doctor it generally fulfils its purpose; occasionally, however, failures occur under these circumstances too; the pessary gets displaced especially during somewhat

impetuous intercourse and spermatozoa are thus enabled to enter into the cervix along the sides of the apparatus. Failures happen still more often if the pessary is introduced by the wife alone and not by the doctor, or if she chooses it. It does not then as a rule cover the portio sufficiently and slides down easily. In such cases, however, it is not only that there is a failure to prevent impregnation, but there are actually injuries of the genital tract arising in consequence. Thus, if the ring is too big for the vagina, the pressure may cause gangrene, necrosis of the squamous epithelium or painful indentations. Ulcers, more or less in extent, may form in a semi-circular or partly semi-circular shape and produce an evil-smelling secretion which soon forces the sufferers to apply for medical relief. I have for instance not long since removed a large Mensinga-pessary from the vagina of a patient into which it had partly become embedded. The steel ring had penetrated the left wall of the vagina in a sort of groove almost $\frac{1}{2}$ cm. deep and 4 cm. long, and profuse proliferation had taken place on each side of it; for several days the patient had suffered from acute pain and a most disagreeably smelling secretion.

Like all soft India-rubber rings, Mensinga-pessaries also cause secretions from the vagina, and if sufficient cleanliness is not practised or if the necessary irrigations with the addition of a disinfecting fluid are not carried out with regularity, vaginal catarrh is apt to arise. But even where the pessaries are introduced after the most careful cleansing, and disinfecting vaginal irrigations are employed daily during their use it happens occasionally, though rarely, that purulent secretion occurs which may in its turn give rise to severe endometritis or possibly inflammation of the pelvic connective tissue and of the covering peritoneum.

These occlusive pessaries are therefore by no means devoid of danger to their wearers, nor are they particularly pleasant. The regular monthly visits to the doctor for the purpose of having the pessary removed before the commencement of the menstruation period, and then again to have it re-introduced at its termination, a procedure which is of course absolutely necessary, are alone sufficient to cause to the women consider-

able reluctance. Not less unpleasant are these occasions to the doctor himself, although unimpeachable reasons of health are in the majority of cases the cause which necessitates the adoption of anti-conceptional measures.

On the whole it may be said that occlusive pessaries fulfil their object very well if properly applied and that they do not as a rule produce in the women wearing them any evil consequences so long as extreme cleanliness is practised. It cannot, however, be maintained that they are absolutely reliable in the prevention of conception.

Far more dangerous are those preventive apparatuses that are provided with a small ivory or metal rod which is meant to be introduced into the uterine cavity for the purpose of closing the cervical canal and of making it thus impossible for the spermatozoa to travel upwards. The apparatuses of this sort show various modifications. The most serviceable is the arrangement provided at the lower end with a small ivory plate—of the size of a sixpence—attached to a round ring, and which, intended to lie in front of the cervical opening, protects the latter from the entrance of impregnating spermatozoa. Such intra-uterine stems were formerly used frequently in the treatment of some diseases of the female genital organs. Experience has, however, shown that the hard stem may easily give rise to pressure-necrosis in the tender single-layered uterine epithelium which may be followed by ulcerations of the uterus; in some of the cases which were not accompanied by a most scrupulous antisepsis or asepsis at the introduction of the instrument there developed purulent endometritis, metritis, and even infectious peritonitis. In Germany these intra-uterine stems are, on account of the dangerousness of the treatment, no longer in general use. It is only very rarely that we now hear something said in their favour (*E. M. Simons, Kallmorgen*).

A doctor in Magdeburg constructed in 1898 an intra-uterine pessary with two spring ends which were introduced into the uterine cavity in the region of the tube-entrances so as to prevent the falling-out of the stem. He recommended these "obturators" as perfectly harmless and as an absolute preventative of conception. In the trial which is reported in the "Mag-

deburger Generalanzeiger" of April 19, 1902, it was elicited that in a number of cases very severe injury to health resulted from the application of the apparatus in spite of its great praise. (Quoted after *Keferstein*.) Thus the instrument had several times become rusty and got broken so that the ends had penetrated deeply into the uterine wall and caused severe inflammations, etc. Moreover, pregnancy had several times occurred notwithstanding the permanent location of the obturator in the uterine cavity. The doctor in question was condemned for recklessly causing bodily injury to 5 months' incarceration. Many years ago *Olshausen* described two cases in which pregnancy occurred despite the fact that there were pessaries lying in the respective uterine cavities.

The stems present therefore on the one hand a by no means safe protection against conception; on the other they are certainly not without danger to the women wearing them. If their application is dangerous when performed by the doctor and when the patient is under his constant supervision, the chances that most serious injury to health will ensue are considerably enhanced where the women introduce or attempt to introduce such instruments by themselves.¹

Of the other preventive measures, vaginal irrigations employed immediately after coitus, and especially if they are applied too cold, are very often injurious to the female sexual organs. The sudden cooling of the over-congested genital tract may produce metritis, and even oophoritis. On the other hand I have not heard that the well-known "safety-spongelets" or

¹A few weeks ago, a catalogue from a Berlin firm came into my hands in which such a uterine stem is most warmly recommended as being quite harmless and reliable in its effect. An accompanying illustration shows—*horribile dictu*—how "easily and without any risk" the stem may be introduced with the help of a mirror and director into the uterine cavity by the women themselves. That it is exceedingly easy for false passages to be created if the stem is applied by an unskilled hand, or that the stem may under certain circumstances pierce the vaginal wall and enter the peritoneal cavity there to produce septic peritonitis, seeing that under such conditions a careful disinfection of the genitals and of the instrument, is hardly likely to take place, I need only mention briefly. Under favourable circumstances there may occur "nothing more" than an inflammation of the uterus, not to mention the most imperfect reliability that the desired result will be achieved.

vaginal balls (made of cacao-butter impregnated with spermatozoa-killing substances, and introduced into the vagina about half an hour before coitus, where they are allowed to melt) have caused any injury to the health of the women using them. Their innocuousness is, of course, accompanied by a corresponding unreliability as to their action. Vaginal irrigations also have only a limited value, as where the os uteri is at all open semen can be injected direct into the uterus, and irrigations are then of no use. As a curiosity I should like to mention that a gentleman whom I know contracted through the employment at coitus of a vaginal ball, the composition of which could not unfortunately be ascertained, a most obstinate inflammatory rash on his penis which demanded several weeks' medical treatment.

The only reliable anti-conceptional arrangement is the employment by the husband of condoms made of good india-rubber; (fish-bladders enable occasionally the spermatozoa to pass through, as has been shown by investigation.) Injurious results to the bodily health of the wife do not arise from their use, unless the occurrence of the orgasm is thereby hindered in the same way as in interrupted coitus. In the majority of cases, however, the process of the sexual excitement in the wife is disturbed to a far lesser extent through the employment of the other protective measures (occlusive pessaries, protective stems, spongelets, irrigations, safety—oval—condoms). If the use of these appliances occasions an insufficient gratification of the sexual desire, they must on this account be prohibited, seeing that they are capable of giving rise to the same consequential diseases of the genital apparatus as the interrupted form of coitus.

Coitus inter menstruationem.—As regards sexual intercourse during menstruation there are apart from æsthetic and ethical reasons against the practice hygienic motives as well. The over-congested genital apparatus of the wife may under certain circumstances be injured by coitus which causes a further intense increase in the sanguineous discharge. Although the opinion held formerly by many that coitus during menstruation may cause hæmatocles through the bursting of overfilled blood-vessels, is no longer entertained, there is nevertheless a

possibility of acute hæmorrhagic endometritis occurring in consequence. Then there is no doubt that the entrance of infectious organisms during coitus is greatly facilitated through the wide opening in the os uteri and cervix which accompanies the menstruation period. Generally speaking, the exercise of sexual intercourse during menstruation is therefore distinctly to be dissuaded from.¹

III. Developmental anomalies of the female genital apparatus in their relations to the married state.

a. Hypospadias and pseudo-hermaphroditism.

Hypospadias and pseudo-hermaphroditism possess such a high social significance that we cannot touch these malformations briefly only, but must refer to them at some length.

Hypospadias arises through an arrest of development in the internal sexual organs. Through disturbances in the longitudinal growth of the vagina there is caused an absence of the connective-tissue wall between urethra and vagina which terminate therefore in common as a very short urethra and—frequently closed—vagina into the persistent canalis urogenitalis. The clitoris is at the same time as a rule more or less markedly

¹That there are occasionally cases where the libido sexualis of the wife is present at the menstruation period only, so that the doctor is well-advised in the interest of the happiness of the married life to permit carefully performed coitus towards the end of the menstruation—as rightly recommended by *Kossmann*, p. 249, does not detract from the utility of the general prohibition of intercourse during the period. Such matters can altogether be decided only from case to case by taking into consideration on the one hand the possibility of an injury to health, and on the other the preservation and cultivation of the matrimonial harmony.—On the other hand I am not inclined to agree unconditionally with the supposition of *Kossmann* that the psychical depression of women during the menstruation-period rests upon the compulsory sexual abstinence. To my mind a very satisfactory explanation may be found in the numerous physical complaints which characterise the “being unwell.” Virgins, moreover, in whom there can be no question of sexual intercourse during menstruation, exhibit exactly the same mental depression as women accustomed to gratify their sexual desire.

hypertrophied so that it has become similar in form to the male penis. On the other hand there occur in the male sex as a result of developmental disturbances exactly analogous conditions of hypospadias with clitoris-like atrophy of the penis, absence of the urethra along its course and divided scrotum, so that the latter presents the appearance of the two labia majora. It may in such cases, where the external genitals are so insufficiently differentiated, be exceedingly difficult to decide to which sex the individual in question belongs, since that decision depends solely and exclusively upon the undoubted establishment of the presence of ovaries or testicles, a thing by no means always easy to accomplish. Such individuals with insufficiently differentiated external genital organs in whom therefore the type of sex is a matter of doubt, but who possess either ovaries or testes, are designated as pseudo-hermaphrodites, and we call them male or female pseudo-hermaphrodites according to the real sex to which they are eventually proved to belong.

It is not always a question of a pronounced male or female hypospadias; there are, on the contrary, numerous modifications of pseudo-hermaphroditism. Sometimes the external genital parts and also the general habit of body are distinctly feminine, only the internal parts are abnormal and there are male germ-glands as f. i., in a person who was admitted a short time ago in the gynæcological policlinic of the Charité Hospital.

Miss Sch., servant-girl, 22 years old, presents herself at the hospital in order to find out why she has never yet menstruated. The external genitals show relatively little hair; mons veneris and labia are rather deficient in fat. Clitoris not hypertrophied, the prepuce of the clitoris is well developed, on the other hand the very rudimentary labia minora forming small cutaneous folds, unite into a very puny frenulum clitoridis. Urethra and vagina terminate at the normal spot. Hymen preserved, ring-shaped. Behind it, a cul-de-sac is reached which is only $\frac{1}{2}$ cm. wide and directed upwards. Per rectum no vagina can be felt, and no distinct uterus, but at about the centre of the pelvis only a structure about the size of a cherry. In the region of the external inguinal canal

there are to the right and to the left bodies rather larger than hazel-nuts which cause considerable trouble to the patient and are very sensitive. The patient wants to get married, and she has a decided inclination towards the male sex, though she asserts that she has never practised intercourse, a statement consonant with the condition of the hymen. Pelvis, shape of body, breasts, face, voice and behaviour absolutely feminine. It is assumed with great probability that the two structures in the inguinal regions are testicles, as the one on the left especially gives during palpation the impression of a testicle with epididymis and spermatic cord. Out of consideration for the severe complaints of the patient, the structures are extirpated at the hospital and the microscopical examination (by Prof. *Waldeyer*) proves them to be testicles in an arrested stage of fœtal development.

The significance and practical importance of these malformations is evinced from this quoted case alone. In a number of instances individuals whose germ-glands are masculine are brought up as girls and often marry as such. The opposite condition occurs far more rarely. Fewer female persons are brought up as boys, since pseudo-hermaphroditism affects chiefly the male sex, for which reason we find much oftener men among "girls," than the other way about.

In a not inconsiderable number of cases this imperfect determination of the sex has led to the most deleterious results, such as suicide, severe insanity, tragic family conflicts, extremely unhappy marriages, serious collisions with the criminal law, various crimes and even murder. The interesting work of *Neugebauer* who has up to now collected about 1000 cases of pseudo-hermaphroditism supplies a terrifying picture of the social and forensic significance of the malformation—which is far more frequent than is generally assumed—and of its influence upon the various aspects of every-day life.

From our point of view we have to ask ourselves especially the following four questions:

1. How far is female hypospadias compatible with marriage?

2. What are the consequences if male pseudo-hermaphrodites marry as women, or vice-versâ if female pseudo-hermaphrodites marry as men?

3. How can such mistaken marriages on the part of pseudo-hermaphrodites be prevented?

4. What do we know with regard to the hereditary transmission of hypospadias and pseudo-hermaphroditism?

Ad. 1. Hypospadias in a person of the female sex, that is, in an individual in whom ovaries are demonstrably present, presents a number of factors which must be regarded as obstacles to marriage. For, as a rule with the malformation considerable developmental disturbances of the female genital organs are associated, so that sterility is bound to result as a consequence. If, as it is generally the case, there is an atresia vaginæ, cohabitation becomes at least very difficult; the urogenital canal is, however, in such cases capable of becoming, through frequently repeated attempts at intercourse, considerably dilated and serviceable for coitus, though the act is usually very painful. The urethra is also frequently utilised for purposes of cohabitation and becomes thereby considerably dilated. If the clitoris is very much hypertrophied, it may cause an obstruction during coitus which can, however, be removed by operation. The consent to a contemplated marriage can therefore at all events be given only after a clear intimation that sterility must be anticipated and after an explanation of the difficulties which will most likely be encountered in any given case during the performance of the sexual act.

Ad. 2. There exist so far quite a number of observations of marriages between two men. (*Neugebauer* has collected 51 cases.)

The "wives" were male pseudo-hermaphrodites who through a mistake as to their real sex, were brought up as girls and eventually given in marriage as such. *Neugebauer* is, however, probably right when he says that there must be considerably more cases of this kind than one would think from the number published. Sometimes the mistake in the sex is not found out at all, in other cases it is kept secret so as to avoid a scandal and unpleasant gossip. Particularly such cases as the

one described above can easily be overlooked and result in men marrying as women.

It is interesting to study the sexual feelings of these men married as women. They present all sorts of variety. In most of the cases the individuals concerned were indifferent, showing neither for men nor for women any inclination whatever. In some of them, however, there was a decided and deep feminine attachment towards the husband as for instance in the following case of *Winter*.

Male pseudo-hermaphrodite, 23 years old, of proper feminine nature. "Her modesty, her female reserve, her almost attractive appearance do not raise in the unprejudiced observer any doubts whatever as to her female type." The case is one of hypospadiasis peni-scrotalis; the penis is not larger than an ordinary clitoris. The girl had formerly had libidinous dreams, and dreamt about men. She loved her intended husband and expressed an ardent wish to cohabit with him.

This inclination towards the male sex can remain in a male pseudo-hermaphrodite in spite of his being enlightened on the subject of his real sex. Others, again, experience in agreement with their proper state a sexual desire for women exclusively, and "hate all men."

Finally there are pseudo-hermaphrodites who are equally fond of intercourse with women as with men, in whom there is consequently a simultaneous sexual inclination towards both sexes.¹

That most serious conflicts can result from the natural sexual feelings of male pseudo-hermaphrodites erroneously married as women, is very evident. Thus in a number of cases the

¹Translator's note: In my boyhood I knew an individual who often assured me that he alternated between being a man and being a woman. He would be a man for 4 weeks during which time he was capable of intercourse with women, and the next 4 weeks he would be a woman capable of intercourse with men. I looked upon him at the time partly with great awe and partly with incredulity, but what he told me was probably true. He must have been a pseudo-hermaphrodite with a sexual inclination towards either sex. He died long before I could have asked him any questions involving an understanding of the condition.

unhappy victims of the mistake were driven by their desire for women to commit acts of infidelity, and several times some of these "wives" have actually impregnated other women!

Where male hypospadias is present, the exercise of sexual intercourse is naturally as much impeded, or even more so, as in the case of female hypospadias. Cohabitation is in such cases frequently impossible and often very painful, but prolonged attempts at coitus occasion here also gradually, partly a dilatation of the urethra so that the husband's penis finds its way into it, and partly a vagina-like inward pushing of the soft parts. Where, however, the external genitals are approximately of a feminine type so that the entrance of the penis is not altogether prevented, and where the vagina is at least a few centimeters long, cohabitation does not present very great difficulties.

It is chiefly the difficulty in the performance of coitus which brings the husbands in question to the doctor. In other cases the absence of menstruation or sterility calls for medical advice. In others, again, the husband discovers immediately after the wedding that his "wife" is not built like other women and demands the dissolution of the marriage.

As a matter of fact in a number of such marriages the union has been dissolved on account of the male sex of both contracting parties. More rarely it has happened that both sides decided on finding out their mistake, to leave matters undisturbed and not to insist upon a change in the determination of the sex.

Cases of marriage between two women, that is, where female pseudo-hermaphrodites have married as men, are far more rare. Against 51 marriages between two men *Neugebauer* could find only 5 between two women. This is in perfect agreement with the observation that pseudo-hermaphroditism is far more frequent in male than in female individuals. It is not possible to draw any general conclusions from the few cases reported.

Ad. 3. The number of such disastrous mistaken marriages in consequence of a wrong determination of the sex can be reduced materially by entrusting the interpretation of possible abnormalities at the external genitals, soon after the birth of the child, to experienced physicians familiar with the subject of malformations. Moreover, the complaints of homo-sexual

or absent sexual sensation, and also the absence of the signs that the female or male organs of generation are acting normally (menstrual hæmorrhages, molimina menstrualia, erections, ejaculations, emissions) ought never to be treated as having no practical importance, and dismissed with such remarks as: "It will all come right in the end,"—"It is all due to chlorosis," etc., but should receive careful attention and consideration at the hand of competent observers.

The following points are decisive in each individual case:

If hypospadias is present in a newly-born child, and nothing can be felt of testicular or ovarian structures, the determination of the sex is impossible; nothing definite can be said, and the parents must be told to wait. If oval bodies are felt in the supposed two scrotal halves or in the inguinal region, they may be testicles or displaced ovaries. Only when an epididymis and spermatic cord can be felt with certainty near the main body of the structures, is it possible to decide in favour of the "male sex." But where the external genitals show female character, and the germinal glands situated in the abdominal cavity are masculine there is nothing to point to pseudo-hermaphroditism.

On reaching maturity the male pseudo-hermaphrodite who has hitherto been brought up as a girl notices sometimes for himself certain signs which cause him great surprise. Instead of menstruation there occur nocturnal emissions, the voice assumes a male character, the beard begins to grow in profusion, in the place of the regular heterosexual desire for man there develops a more or less violent inclination towards women, or the sexual sensation does not become manifest at all. These doubts as to their own sex have been known to arise sometimes even in such "girls" whose genital organs presented externally no abnormalities whatever, and who could not therefore have been influenced in their thoughts by any malformations in the sexual region. It is chiefly the absence of menstruation which frequently constitutes the main cause of the question whether a certain person may marry or not.

Complaints of this sort must always suggest the idea that a male pseudo-hermaphroditism is possibly the cause of them. The "girl" in question can with certainty be declared to be a

man if spermatozoa are demonstrated in the ejaculated fluid, or if testicle, epididymis and spermatic cord can incontestably be ascertained by palpation, no matter whether they lie in the supposed scrotal halves or in front of the inguinal canal. But if semen cannot be demonstrated, and if testicle-like or ovarian-like structures cannot be felt at all, or if they cannot with certainty be pronounced to be male germ-glands with epididymis and spermatic cord, as for instance when they are rudimentary, it is only possible to make a definite and incontestable pronouncement after a diagnostic operation—scrotal, inguinal or abdominal section, according to position—with which it is best to combine an excision of a small portion for microscopical examination.

Everything else is deceptive. No doubt marked feminine sensation will hardly permit the thought that the individual in question is a man; but we must remember that education plays here a very great part. The following case of *Berthold* among others, is very instructive in this respect:

A male pseudo-hermaphrodite, aged 22, who was brought up as a girl consults Prof. *Berthold* on account of hoarseness. "She" is a shy girl who becomes confused and blushes when asked about her inclinations towards one sex or the other, and she refuses at any price to allow her body to be examined again. *Berthold* reveals to her the mistake made as to her sex, and she does not at first wish to believe it. Seven years later, however, she begs Prof. *Berthold* to assist her in changing her sex; the shy girl assumes now quite a different behaviour and appears as a fine young fellow who has no objection to being shown at a large medical gathering or to being examined and photographed.

How careful one must be in determining the sex even when all the secondary sexual characteristics, general build, pelvis, larynx, voice, growth of hair, psychical peculiarities, etc., are feminine, is clearly shown by a case of *Pollailon*:

Girl, 23 years old, with imperfect vagina. External pudenda perfectly female. On each side in the inguinal canal a structure the size of a hazel-nut. Gen-

eral appearance, feminine; inclination towards men. It is therefore assumed that she is a woman with rudimentary ovaries. The post-mortem shows afterwards these bodies to have been testicles!

The same thing was observed by myself in the above-described case of Miss Sch.!

If in the course of time and development it is still impossible to arrive at a definite decision, one may yet sometimes do so subsequently without operation when the testicles have descended and when they can be distinctly felt as such.

That an individual is a female pseudo-hermaphrodite we can conclude with certainty from the occurrence of periodical hæmorrhages from the sexual organs or from the presence of ovaries. But the interpretation of such menstrual hæmorrhages requires the greatest circumspection; hæmorrhages from the urethra and hæmorrhages through cohabitation-injuries have been mistaken for menstruation; in some cases the persons in question asserted that they had regular hæmorrhages so that they might remain women. It may sometimes be necessary to perform a diagnostic operation in order to establish the presence of ovaries.

Ad. 4. That hereditary elements play a certain part in the origin of hypospadias and pseudo-hermaphroditism we learn from the literature. *Neugebauer* collected 2 years ago 45 observations of hereditary transmission of this malformation or of its occurrence in several members of the same family. Of particular interest is the communication of *Lingard*: transmission of hypospadias from father to son through six generations. The point is therefore not without significance from the standpoint of a contemplated marriage with a hypospadiac man.

b. Congenital rudimentary state of the uterus.

The rudimentary uterus is met with in combination with a rudimentary vagina. The uterus is usually represented by a small longitudinal solid body, the ovaries are sometimes perfectly developed, but generally smaller than is normally the

case. The external parts show sometimes the physiological constitution. Generation is, of course, out of the question in such cases, and menstruation is also absent. Where the ovaries are functionally capable there may however occur considerable menstrual complaints. The absence of the menstruation brings these girls often to the doctor. It is in these cases particularly necessary to be on guard against confusion with male pseudo-hermaphroditism of which one should always think in defects of the uterus and vagina. Search must be made in the labia majora and in the inguinal canal especially, for possible testicles, for the presence of further malformations of the clitoris, of the labia minora and of the urethra. (Compare with the case observed by me and described above under "Hypospadias and Pseudo-hermaphroditism.")

The certainty that the marriage will prove sterile ought really to be a reason against allowing it, its aim being the propagation of the species; there is, besides, the fact to reckon with that the absence or insufficient length of the vagina renders intercourse very difficult or impossible. Still, there is no real objection if the future husband decides to marry the girl in question despite his being aware of her incapacity for conception or of the difficulty which cohabitation is likely to encounter, especially if her sexual desire should be, as is frequently the case, quite normal; the rudimentary vagina becomes through frequently repeated coitus after some time sufficiently dilated in a number of the cases. The urethra, too, has frequently been made use of for cohabitation under such circumstances. Plastic operations have recently been performed occasionally, and not without success, for the purpose of forming an artificial vagina, but the operation is so far not without dangers and too uncertain in its effect, to merit general recommendation.

c. Duplication of the non-rudimentary uterus.

The various forms of the double uterus, produced by insufficient or totally absent union of the two Müller's ducts, influence the possibility of cohabitation in very rare cases only. In

double vagina the dividing septum may occasionally create difficulties on account of its size, as in the case of *Dirner* in which it had to be removed by operation. Frequently in double vagina only one side is dilated and used for sexual intercourse. This happened also in a case of uterus duplex bicornis bicollis with double vagina which I had occasion to see in the policlinic of the Charité, and in which the septum ran quite extramedially and was lying closely against the left wall of the vagina.

Conception is also not prevented ; it may even happen, as it has several times been observed, for pregnancy to develop simultaneously in both halves of the uterus. In such a case the two embryos may even be expelled at different times and with a long interval in between. (*Peter Müller.*) Labour may take place quite normally, but it may also exhibit displacements of the presenting fetal part and their consequences on account of the occasional lateral position of the pregnant half of the uterus. Uterine inertia has also been observed as a result of the imperfect development of the uterine muscles.

The septum in the vagina seldom gives rise to difficulties. It generally gets torn during labour by the descending fetus, or at least pushed aside; sometimes it may need dividing. "Disturbances do occur repeatedly, but they are not of any serious importance." (*Pfannenstiel.*)

d. Uterus unicornis with rudimentary second horn.

The uterus unicornis hinders neither coitus nor conception. If pregnancy occurs in the fully-developed horn, its course is like in double uterus. A most disastrous effect may, however, result if the impregnated ovum settles and begins its development in the rudimentary horn. The issue is generally a rupture of this thin-walled second horn with consequences similar to those resulting from the bursting of a pregnant Fallopian tube. The question of consent to a contemplated marriage is hardly likely to arise in this connection; there are no symptoms calling for medical help, and the malformation is generally discovered later on unless there are also other anomalies or complications of some sort.

e. Imperfect development of the uterus.

The imperfect development of the uterus occurs in two main forms. There is first an arrest of the uterus at a stage of development corresponding to the uterus of the fœtus in the last months of the pregnancy: uterus fœtalis. In this form the cervical portion is twice as long as the body of the uterus, which is very small, and the whole uterus is considerably shorter than normally; the ovaries and the pubic hair are generally also poorly developed.

Or there may be an infantile uterus, that is, one which has not grown during childhood. Here the relative proportion between the size of the cervix and that of the body of the uterus is the same as normally, but the whole uterus is much smaller than ordinarily and forms so to speak a miniature uterus. There are transitions between the two forms.

The markedly fœtal uterus is incapable of menstruation, and impregnation is equally impossible. The ovum cannot settle in the imperfectly developed uterus. But though the women in question are sterile their sexual desire or pleasurable sensation is not necessarily disturbed. The opinion of *Küstner* that such women are devoid of every particle of sexual excitement does not meet with my approval. I have repeatedly examined women of this sort in whom the sexual excitability was perfectly normal, and *Nagel* goes so far as to maintain that it may be present in a higher degree. Personally I cannot, however, say that I have seen cases of this latter class. That the sexual desire may also be absent, goes without saying; does it not happen that it is absent also in women who are normally built and in possession of perfect sexual organs? The conjugal intercourse can as a rule be performed without difficulty, an occasionally occurring too short or too narrow vagina soon adapts itself to the size of the respective male member.

In those cases especially where in the place of menstruation more or less severe and painful spasms in the abdomen occur at intervals of 3-4 weeks, exactly the same troubles are occasionally observed in connection with cohabitation.

A subsequent further development is in the case of an unmistakably fœtal uterus out of the question; women with such wombs are therefore condemned to permanent sterility. This point is naturally of immense importance to the question of the consent to a marriage which can only be granted after a full explanation of the real state of affairs. It is also not without importance to remember in this connection that organs which have remained at a low stage of development, are on the whole more liable to be attacked by disease than normal and well-developed ones.

The situation is rather better in infantile uterus. In the slighter cases particularly, in which menstruation is present though it is inconsiderable, of short duration and occurring at long intervals, a decidedly favourable alteration takes place sometimes after marriage. Frequent cohabitations can influence a subsequent further development by means of the strong hyperæmia which they occasion in the genital apparatus, so that the uterus approaches gradually the conditions present in the healthy woman and begins to menstruate regularly.

In such cases there is naturally also a possibility of conception although it frequently does not take place for some time after marriage and without the influence of medical treatment of various kinds. Generally speaking, it is possible to draw certain conclusions with regard to the sterility from the behaviour of the menstruation. The more normal the latter the less likely it is that the woman in question will remain sterile; where menstruation is absent entirely, sterility may be looked for. In this case, however, there are generally transitions to fœtal uterus.

In considering therefore the question of consent to marriage the state of the menstruation is the decisive element. In abnormally slight and rare discharges which have commenced several years later than normally, the chances of a fruitful marriage are very small. In other cases the consent may be granted with the proviso that sterility is a fact to be reckoned with. Suitable treatment with the object of producing a more active circulation of the blood in the pelvic organs can, however, under certain circumstances be of very great usefulness. As general

remedies we may recommend cycling and horse-riding so long as there are no contra-indications; of local applications I have derived most benefit from the electrification of the uterine cavity with the galvanic current. I need hardly mention that the chlorosis which is very often present in these cases requires most careful treatment.

Where pregnancy occurs, the labour proceeds sometimes abnormally slowly. The poorly developed uterus does not contract sufficiently, the pains are very slight and troubles arise therefore occasionally also in connection with the after-birth period.

IV. Retroversion, retroflexion and prolapse of the uterus and vagina.

In the following discussion on the retroflexion of the uterus in relation to the married state we shall consider on the whole only the cases of uncomplicated displacement. Where more or less severe inflammatory changes (catarrh of the uterus, inflammation of the peritoneum, disease of the tubes and ovaries), alter the clinical picture, the procedure of the physician will in the first place be dictated by these complications. We may therefore apply to complicated retroflexion what has been said with regard to the inflammatory diseases.

The origin of retroversion—flexion in the puerperium.—A large number of gynaecologists see the principal cause of retroflexion of the uterus in the puerperium, and especially in one which was badly managed. One of the most important events of married life would therefore play a considerable part as an etiological factor in this sort of displacement.

For keeping the uterus in its right place there are, besides the pelvic floor and the perineum, several ligaments: tense bands of connective tissue which proceed laterally from the cervical portion to the pelvic wall, the round and the posterior uterine ligaments. They maintain the uterus with its fundus directed upwards and forwards and with its cervix downwards and backwards, and they at the same time tend to keep it in

the middle position of the body and at a normal height. But if the uterus happens for some reason, f. i., through an over-filled bladder, to lie in a position of retroversion, it will retain this changed position if its wall-apparatus has in any way suffered, if the round ligaments are too weak to pull the fundus forwards, if the sacro-uterine ligaments are so relaxed that they cannot direct the cervix posteriorly.

How does this relaxation of the ligaments come about? In this way: The elastic and connective-tissue attachments of the uterus are considerably stretched during pregnancy. With the rapidly growing uterus the ligaments inserted into it, grow only to a certain extent, so that they are partly drawn upwards and over-extended. After the expulsion of the fœtus and the great diminution in the size of the uterus resulting therefrom, the ligaments will have become too long and too lax. Still, the uterus is during the puerperium kept in a marked position of ante-flexion, particularly by the energetic contraction of the round ligaments which have become hypertrophied during the pregnancy. Now, if these muscular attachments of the uterus have lost much of their strength through the puerperal disintegration, as it is usually the case, and the elastic and connective-tissue ligaments have not yet regained their former tension, "the critical moment arises which is favourable for the development of a retroflexion after the puerperium." (*Schulze*.)

An insufficient diet during the puerperium is frequently regarded as a particularly aggravating cause. If the parturient woman gets up too soon or if she has some hard work to perform, severe injury may be caused to the sexual organs. The process of evolution is disturbed and permanent relaxation ensues.

Besides, the puerperal processes act sometimes in another way too, namely, by creating inflammations which weaken the supporting apparatus temporarily or permanently, through the formation of adhesions between the uterus and the posterior pelvic wall, etc.

Some authors, f. i., *Küstner*, deny that what is generally regarded as a premature getting-up after child-birth can constitute a cause of backward dislocation of the uterus. There

is at any rate no doubt that a large number of retroversions and retroflexions which are ascertained for the first time during the puerperium are not puerperal in origin, but have already existed before, and have only come under medical notice on account of the complaints becoming sufficiently aggravated to attract attention. Gynæcologists who examine many virgins and nulliparæ, know how frequently these displacements occur among them.

Origin of prolapsus uteri et vaginae during the puerperium.—Prolapse, too, owes its origin as a rule to the puerperium. After labour the vaginal entrance is widely open, the vagina itself forms a movable and flabby canal, the pelvic floor is relaxed, its power of resistance and its elasticity are at first highly diminished, while the voluminous puerperal uterus rests upon it.

Now, if the puerperal woman gets up too soon, before the soft parts have to a certain extent regained their tonicity, the exertion of the abdominal press can easily expel the lower segment of the anterior vaginal wall. Soon afterwards there appears also a portion of the posterior wall and the descended vaginal walls pull down in their turn the uterus to which they are attached. The occurrence of the prolapse is very much facilitated by the absence of the perineum, and consequently by unsutured or unhealed perineal ruptures. Whereas normally the abdominal pressure simply pushes the anterior vaginal wall towards and upon the posterior one which possesses a strong support in the tough and wedge-like inserted perineum, the anterior vaginal wall is, in case the perineum is absent, forced directly downwards because it is deprived of its support. If the abdominal press of the puerperal woman is strongly taxed during defæcation and micturition, considerable aggravating elements are thereby created.

Prophylaxis of displacement and of prolapsus uteri et vaginae.—The prophylaxis of backward displacement and of uterine and vaginal prolapse presents in the puerperium a grateful field.

In the first place, every perineal laceration, no matter how small, requires the most careful suturing. A fortnight's rest

in bed is imperative, but the dorsal position should not be continued for longer than the first 8 days. It is further necessary to see that the bowels act easily so that the abdominal press should not be unduly requisitioned. The bladder must be evacuated during the day at regular intervals of about 3 hours, otherwise it will when overfull, press the vaginal wall downwards and the uterus backwards. Severe manual labour should not be permitted at all before involution is complete, that is, not before the lapse of 6-8 weeks. If signs of prolapse become manifest, or if a retroversio-flexio is ascertained by the corresponding symptoms it is advisable to introduce a pessary at an early stage. A longitudinally-oval S-shaped celluloid ring is placed in the vagina with the most scrupulous regard to asepsis. If the vagina threatens to descend, a firmly-drawn T-bandage and especially the introduction of tampons impregnated with glycerine of alum promise the best results.

Cohabitation in retro-version-flexion and prolapse.—Cohabitation is, generally speaking, not hindered either by retro-version-flexion of the uterus or by prolapse of the uterus and vagina. Where the vagina lies to a considerable extent in front of the external genitals, the parties concerned usually replace the prolapse before performing coitus, or else the male member itself brings about the reposition of the prolapsed parts. Neither do the pessaries introduced by doctors for the purpose of supporting the uterus and vagina in their right places, as a rule disturb the conjugal intercourse very much, provided, of course, that they lie properly, that they are made of the proper material and are adapted to the size of the vagina and other prevailing conditions. Rare forms of pessaries, hardly ever employed at the present day, f. i., rings in which a wide shaft narrows the vagina and projects out of it, do not permit the performance of regular intercourse. But the thought that a pessary is lying in the vagina of the wife occasions in some husbands such disagreeable sensations that this circumstance alone is often the influencing factor in the decision to undergo an operation, the consent to which could not otherwise be obtained. Cohabitation is further indirectly prevented by rings made of soft rubber, or of copper wire, covered with

rubber, not so much on account of the obstacle which the foreign body opposes to the entering penis, as on account of the malodorous discharge which the application of these rings soon causes and which is sufficient to deter from conjugal embraces. For æsthetic reasons alone, the use of this material should therefore be discontinued, not to mention the injury to health which the purulent secretion can give rise to.

The affections with which we are dealing cause no pain during cohabitation even if a pessary is lying in the vagina; where pain is thereby engendered, the ring is either not situated properly, or else the case is not merely a retro-version-flexion or prolapse but rather a complication with catarrh of the uterus or with inflammation of the pelvic peritoneum, of the pelvic cellular tissue, of the tubes or of the ovaries. Whilst the conjugal intercourse in uncomplicated retro-version-flexion and prolapse does not need any restriction, no matter whether a pessary is introduced or not, the above-mentioned diseases alter the standpoint of the medical adviser entirely; in that case we must be guided by the principles which are laid down in the chapter: "Inflammatory diseases of the genital organs in relation to marriage."

Sterility in retro-version-flexion and prolapse.—Opinion is divided as to whether a simple retro-version-flexion is to be regarded as the cause of an existing sterility. While some authors deny *in toto* that there is here any causal connection and maintain that in retro-version-flexion and sterility the unfruitfulness depends upon some other genital disease, such as uterine catarrh, or other inflammatory processes in the pelvis, or possibly upon an affection of the husband, others do not feel inclined to withhold this influence absolutely from the simple uncomplicated retroflexion. Thus *Winter* also points out that in high degrees of retroflexion the abnormal forward position of the external os uteri hinders the entrance of the spermatozoa, and thus possibly the occurrence of conception. In women who have not yet had children the pronounced bend of the uterus backwards produces a further element rendering conception difficult, by narrowing still more the already narrow cervical canal and internal os.

At any rate we do see occasionally that pregnancy takes place subsequent to the removal of a simple retro-version-flexion after a sterility extending over many years, and namely so shortly afterwards that it can hardly be said that some other concurrent disease has in the meantime become healed. It cannot in these cases be straightway denied that the disappearance of the mechanical disturbances described above, and perhaps the fact that the tubes which have hitherto been displaced and bent posteriorly along with the uterus have again become passable, were instrumental in producing a rapid impregnation. The following case of *R. Braun v. Fernwald* is interesting in this respect:

In a lady who was suffering from a congenital retro-flexion, the uterus was on account of her sterility raised and maintained by a pessary in its normal position. Shortly afterwards, conception. After the puerperium the uterus became again retroflected. There was again an absence of conception until the uterus was again raised. Since then, the patient has her uterus raised whenever she wants to have a child, and she becomes pregnant immediately.

In by far the great majority of cases, however, there is no doubt that these mechanical factors are not accountable for the sterility of the marriage, but that the latter is due to some complication.

This applies even to a greater extent to prolapse. The prolapse of uterus and vagina cannot be a cause of sterility, since during or before cohabitation the prolapsed soft parts are replaced into the pelvis, so that the spermatozoa are not at all prevented from entering comfortably. Where sterility is present in association with prolapse of the genital organs the cause lies as a rule, if it is in the wife at all, in the simultaneous disease of some portion of the genital canal.

Retro-version-flexion in its relation to pregnancy, labour and puerperium.—If the impregnated ovum settles in a retroverted-flected uterus, 3 issues are possible. By far the most frequent is also the favourable: The pregnant uterus raises itself up, grows out of the pelvis, and

pregnancy and labour take an undisturbed course. In fact this is, as *Chroback* especially has pointed out, the almost regular issue in retroflexion. Or else the uterus remains with its body in the sacral curvature. In that case miscarriage may take place. Retroflexion-version was formerly regarded as a very important etiological factor in the causation of miscarriage. But since the investigations of *Winter* and others it behoves us to be very careful in the interpretation of these cases. Finally, it is also possible, if neither spontaneous elevation nor miscarriage occurs, for the pregnant uterus to become jammed in its further growth against the hollow of the small pelvis. If assistance is not quickly forthcoming, this condition presents an exceedingly great danger which may imperil to the utmost the health of the sufferer or even cost her her life. There ensues in the course of the incarceration an impossibility to evacuate the bladder on account of the displacement of the urethra, an infection of the urine retained in the bladder, gangrene of the bladder, death from rupture of the bladder with subsequent septic peritonitis, suppurative pyelo-nephritis, pyæmia, etc.

If therefore in the course of pregnancy the uterus is found to lie in retro-version-flexion, it must be raised with the hand as carefully as possible and kept in position by means of a pessary which must be left inside until the middle of the 5th month so as not to allow the uterus to fall back again.

A different procedure is indicated if there are already symptoms of incarceration. Here the attitude to be adopted depends entirely on the condition of the bladder. If the situation is favourable, namely, enormous dilatation of the bladder with impossibility to pass urine but without signs that decomposition has already commenced, the bladder is simply evacuated carefully by means of a male catheter, and this manipulation is immediately succeeded by a very cautious elevation of the pregnant uterus and the introduction of a pessary-ring. But if there are already signs of gangrene of the bladder, and if the urine is purulent, the more advisable course is to open the bladder from the vagina in order to permit a sufficient discharge of the gangrenous masses, a proceeding recommended by

Pinard and *Varnier* and supported also by *Bumm*. In these cases the elevation of the uterus must not be attempted; this might result in the laceration of the already injured tissue of the bladder and also of the uterus. Here abortion must be instituted, and this must also be done in those cases where the reposition cannot be effected notwithstanding all the measures adopted. If artificial abortion cannot be performed cautiously the uterus must be punctured from the vagina under most careful asepsis, whereupon labour pains usually begin very soon.

If in a pregnant woman retention of urine or even dribbling of urine (*Ichuria paradoxa* with the bladder overfull) occurs in the first half of the pregnancy, there is a very great probability that incarceration of the uterus lying in retro-version-flexion has taken place, which may if allowed to proceed further, lead to the death of the woman. This is a sentence of the greatest importance to every-day practice!

Prolapse of the uterus and pregnancy, labour and puerperium.—Slight prolapse of the vagina has no influence on the course of pregnancy, labour and child-bed, apart from the circumstance that in some cases the rapidly growing uterus causes the sense of heaviness also to be felt in a higher degree. The introduction of a suitable pessary removes this disturbing sensation at once, and if the apparatus is situated properly the continuance of the pregnancy is not in the least interfered with.

Similarly if the uterus itself is also partly prolapsed, the course of the pregnancy is usually a favourable one. If the uterus, in agreement with the increase in its size, ascends upwards from the small pelvis, the change of position disappears and the rejoicing patient imagines that she is relieved of her complaints. Unfortunately, however, the uterus sinks again at the termination of the pregnancy, and on account of the renewed relaxation of the tissues the prolapse is sometimes even more pronounced afterwards than before.

Where no spontaneous elevation of the uterus takes place, artificial reposition of the prolapsed parts into the pelvis becomes, of course, necessary. If the prolapsed parts are much

swollen, the manipulation of reposition must occasionally be preceded by a few days' rest in bed. A suitable pessary-ring is then introduced, which keeps the uterus permanently from sinking downwards again. At any rate miscarriage or premature labour may occur here, too (17% of the cases, *Bentner*), if spontaneous reduction does not take place and no artificial reposition is performed, especially where the uterus is at the same time in a position of retro-version-flexion.

The process of labour is on the whole very little endangered. Of course, if the cervix is highly hypertrophied, chronically inflamed and indurated, the dilatation-period lasts sometimes very long and may necessitate a more or less active interference of the medical attendant—but such cases are comparatively rare.

Permission to marry.—It is only rarely that one has an opportunity of expressing an opinion whether displacement or prolapse constitutes to a certain extent an obstacle to a projected marriage. Such anomalies are not often seen in virgins. It is true that retro-version-flexion is in their case also more frequent than it was formerly supposed, but it does not get diagnosed as there are no complaints calling for an internal examination; it is only during the puerperium that these complaints arise first. But where complaints are made, and an exploration reveals an uncomplicated retro-version-flexion, it is permissible for obvious reasons to postpone the correction of the displacement until after the consummation of the marriage where the interval is not a very long one; there is at all events no justification for prohibiting the marriage in the absence of complications and other changes, seeing that the prognosis of malposition is on the whole favourable. If there are inflammatory changes associated with the pathological position of the uterus, they will naturally claim the first interest. The retro-version-flexion must then be relegated to a secondary place, and the attitude of the physician will depend on the degree and form of the inflammatory symptoms. (See chapter on Inflammations.)

If a somewhat extensive prolapse is present in a virgin, the necessity of an operation must be pointed out. There are sev-

eral reasons for taking this step before the consummation of the marriage, but it is certainly justifiable to wait until after that event, as long as the future husband is agreeable to it. The prolapsed parts must then, if only for æsthetic reasons, be retained in position by means of a pessary until the operation is performed. In slight prolapses palliative treatment by means of pessaries is, it is true, justified, but here also an operation is very desirable especially if the woman in question wishes to enter the matrimonial state completely cured. It is consequently advisable to tell the patient that a definite disappearance of the troubles can be expected from an operation only, and that it is as a rule preferable for this reason to effect the removal of the prolapse before the consummation of the marriage.

V. Inflammatory diseases of the genitals in relation to marriage.¹

The import of marriage in the origin of inflammatory affections of the genitals.—It is a generally recognised fact that married women contribute to “abdominal diseases” an unequally greater contingent than virgins. It is just the inflammatory genital alterations which are the peculiar consequences of those injuries which virgins escape, and which seem to attack married women with full force, either because virulent gonococci are during cohabitation transplanted onto the mucous membranes of the female genital tract, producing all the sad consequences of the infection, or because the conjugal intercourse as such gives rise to proliferation processes in the genital organs,² or finally because the conjugal cohabitation has led to conception and in this way brought

¹Gonorrhœa of the female genitals is here simply taken notice of, but not discussed in detail as the subject is fully dealt with in a chapter of *Neisser's* article: “Gonorrhœal Diseases in Relation to Marriage.” A few special pages have been devoted to the tuberculous diseases of the genital organs.

²See the 2d section of this article where the inflammatory diseases of the genitals have received detailed consideration in so far as they are produced by abnormal conjugal intercourse.

within the range of possibilities injuries through the activity of the procreative faculty. This does not, of course, mean to say that inflammatory processes at the genital organs are always the consequences of these "conjugal injuries;" there are also numerous other influences which play a part, but which we cannot discuss here in virtue of the limitation of our subject.

That pregnancy *per se* favours the formation of a metro-endometritis has not hitherto been shown to be probable by any demonstrable facts; the cases in which an inflammation of the decidua during pregnancy has been brought about by the invasion of infectious organisms (*Donath, Emanuel*, etc.), possess so far only the value of interesting curiosities, but they have no real practical importance. If there are any signs of metritis in a pregnant woman, it is generally a case of disease which was already existent before impregnation.

Greater importance, however, attaches to the act of expulsion of the fœtus, no matter whether it is the birth of a ripe child, or a prematurely interrupted pregnancy, abortion, miscarriage or premature labour. There is no need from our present point of view to take into account the numerous disastrous infections which lead through the medium of a diseased genital apparatus to general illnesses or loss of life. Those cases especially are of importance to us, where an infectious injury of the genitals during labour—caused by insufficient asepsis at the management of the confinement—is succeeded by invalidism extending over months and years, where more or less serious inflammatory tissue-changes have remained behind after the surmounting of the acute stage, changes which deprive the unhappy women of health and vitality. To this category belong inflammations of the ovaries, of the tubes, of the pelvic cellular tissue, and of the pelvic peritoneum covering the genital organs, especially the uterus itself. Although in some cases absorption of the inflammatory masses takes place comparatively quickly, and a return of the injured parts to their normal condition ensues, the after-effect is nevertheless very frequently of much longer duration. Even after the apparent decay of the infectious agents the organic changes caused by them lead to a deterioration of the sexual function, to acute pain, to distant

effects on other organs and systems of organs, and sometimes to complete infirmity of the woman.

Similarly, infections which have arisen in the course of the puerperium can, of course, also produce the described inflammatory diseases.

I wish to call here particular attention to the unfavourable influence which the puerperal state frequently exercises upon an existing gonorrhœa. The infection generally dates from a period prior to the pregnancy, but the symptoms had hitherto remained mild, there had been no more than a slight discharge from the cervix, which was, perhaps, the only part affected, and the patient had most likely devoted but little or no attention at all to this manifestation. But the gonorrhœal causative agents find in the lochial secretion an excellent soil; they multiply intensively and with great rapidity. The pronounced patency of the cervical canal and of the internal os facilitates the upward motion of the organisms, and thus there often ensues an early joint affection of the higher genital parts, that is, of the uterus, tubes and pelvic peritoneum. Henceforth severe symptoms make their appearance, the affection of the body of the uterus and of the tubes signifies the commencement of the woman's sufferings where she had hitherto hardly known anything of her infection. It often enough means the beginning of many years' invalidism, sickness, inability to work and to enjoy life, and a condemnation to future sterility. It is chiefly the latter part of the puerperium, the time when the woman is already on her feet, that is particularly predisposed to the ascending of the process, and for this reason it is well to enjoin in the case of women with demonstrable gonorrhœa, the most careful nursing and looking-after during their child-bed period, rest in bed until the complete involution of the genitals, that is, the lapse of the 6th week, and the strictest avoidance of all violent movements.

Inflammatory proliferation-processes arise as a rule in the puerperal period more frequently on a non-bacterial basis.

The retention of decidual remnants in the uterine cavity after a labour or miscarriage, and slow, insufficient involution of the genital organs play here the principal part. Of course,

the whole decidua vera can sometimes remain behind and still cause no inflammation, in which case there takes place a gradual transformation into normal uterine mucous membrane (Winter). In other cases, however, remaining decidual shreds are capable of occasioning inflammatory proliferations of the uterine mucous membrane.

If the involution of the genitals does not take place in the ordinary rapid manner, as is the case, for instance, after injudicious conduct on the part of the puerperal woman, after premature getting-up, bodily overexertion, etc., the result of the badly managed puerperium is often inflammatory proliferations in the mucous membrane and muscles of the uterus, as well as in the ovaries, on account of the excessive and long-continued vascularity of the tissues.

In a slightly devious way the puerperium leads further to inflammations of the uterus and ovaries, through the facility which it provides for the occurrence of displacements, and especially retro-version-flexion of the uterus. The malposition of the broad ligaments posteriorly, with the consequent constriction of the uterine veins causes in the opinion of many authors a congestion in the uterus and chronic proliferative conditions in the same.

Prophylaxis of the inflammatory changes during labour and puerperium.—The physician who has to conduct a confinement and its subsequent puerperium can do a great deal towards averting the inflammatory affections. First of all, it is necessary to keep away from the genital canal of a woman in labour all pathogenic organisms. It would greatly exceed the limits of this book if I were to enter into details. Only a doctor who does not realise the importance of his great responsibility will approach a confinement without carrying out in every detail and most scrupulously the disinfection of his own person and that of the parturient woman. I need only briefly mention in addition that the same care and precaution is requisite during the puerperal state, the same scrupulous control of the nursing attendants with regard to asepsis and with regard to the absolute necessity of sterilised undersheets, diapers, etc.

A satisfactory involution of the genitals must be aimed at by an early administration of ergot, and particularly by the injunction to suckle the infant, unless pressing reasons render this course inadvisable. It is best for the puerperal woman not to get up before the lochia have lost every trace of a sanguineous mixture. Sitting-up too soon—before the 8th or 9th day,—but especially premature leaving of the bed and physical labour, must be prohibited. It is unfortunately very often hard necessity which forces the women of the working-classes and partly also those of the middle classes, to resume their activity before the involution of their genitals is complete, which means about the end of the 6th week.¹

No less care than after a confinement, is required in the management of the puerperium after a miscarriage. It is here unfortunately where the recommendation to be careful is frequently disregarded, because the injurious influence of miscarriages is still greatly underrated.

Sexual intercourse in the presence of inflammatory genital affections.—That in all acute and sub-acute catarrhs and inflammations of the various parts of the genital tract sexual intercourse must be prohibited, goes without saying. But also in the presence of chronic inflammatory changes the permission to continue conjugal cohabitation has frequently to be withheld. The patients themselves generally come with the complaint that the pain increases violently in connection with cohabitation, as f. i., in inflammations of the ovaries and of the tubes, in parametritic indurations and pelveo-peritonitic adhesions, or that hæmorrhages occur afterwards, as is the case sometimes in erosions at the portio vaginalis and in endometritis of the body of the uterus. Frequently in some of these cases pain is experienced altogether only during cohabitation, or in connection with other definite occasions, such as menstruation, defæcation and severe physical over-exertion. The cause of the occurrence or respectively of the aggravation of the pain lies partly in the direct pressure of the

¹See also the prophylaxis of the displacements caused in the puerperium, in the respective chapter.

penis against the inflamed organs, as f. i., in descended and severely inflamed ovaries and tubes, parametral cords, etc., but no doubt the intense congestion in the diseased tissues plays also a considerable part. Especially after often repeated coitus one frequently sees severe aggravations of the complaints.

The rule should therefore be laid down that, generally speaking, coitus must be abstained from as long as the patient is under medical treatment and there are markedly pronounced inflammatory changes in the genital apparatus. This rule must be the more strictly adhered to, the more severe and extensive the disease, and the greater the effect upon the general condition, particularly so if there are complicating serious neurasthenic and anæmic symptoms.

Exceptions must, however, be occasionally admitted; in some women complete abstention from sexual intercourse, if continued for some months, is capable of causing such a state of depression, such nervousness and irritability, particularly if the subjective feeling of illness is only a moderate one, that it is necessary to be very careful with the absolute prohibition of cohabitation, if the inflammatory affections are of a slight character, as happens especially in catarrhs of the cervix, parametritic indurations, etc.

If the woman is no longer under medical treatment and the organism is again in a satisfactorily strong condition, cautious and gradual resumption of the conjugal relations may be permitted after a few weeks. A guide as to the tolerance of the genitals towards cohabitation is the absence or re-appearance of pain, discharge or hæmorrhage. If these symptoms recur in consequence of a moderately exercised conjugal intercourse, the latter must again be absolutely prohibited and the affected parts must for some time be kept free from all irritation by sexual cohabitation.

Sterility in inflammatory diseases of the genitals.—The number of cases in which chronically inflamed conditions of the female genital tract prevent conception or the settlement of the impregnated ovum is a very large one; in by far the great majority of the cases the cause of the unfruitfulness lies in inflammatory diseases. It is clear that

the various inflammatory changes are here quite different in their importance.

Of very great importance is the chronic endometritis of the body of the uterus and, in a lesser degree, that of the cervix. The spermatozoa must traverse unhindered the uterine canal, and the impregnated ovulum must be permitted to develop in the mucous membrane of the uterus. But if the passage along the cervical canal is filled up by tough and hardened mucus the upwards travelling of the spermatozoa is considerably interfered with. No less injury may be caused by a profuse secretion from these parts, the spermatozoa are then simply washed away by the liquid stream or killed by the corroding properties of the secretion.

But even if the spermatozoa have successfully overcome these hindrances in severe catarrhal conditions of the uterus, there is in the alterations of the mucous membrane of the uterine cavity an element which makes it impossible for the ovum to become adherent. Or, if the mucous membrane permits the settlement of the ovum, its further development is soon interrupted; the import of chronic endometritis as a cause of miscarriage is too well known.

Inflammation of the tubes always produces sterility, as soon as their abdominal ends, or ostia, become agglutinated and closed-up. If we have therefore to deal with the consequences of a closure of the tubes—pyosalpinx, hydrosalpinx—the sterility does not require any further explanation, since in a case of this sort the union between spermatozoa and the ovum discharged from the ovary becomes impossible.

But tubal inflammations in which no closure of the ostium abdominale has as yet taken place, can also have some effect; the secretion which is produced by the diseased tubal mucous membrane can injuriously influence the vitality of both ovum and spermatozoa. The loss of the fimbriæ, too, prevents the further passage of the ovum into the uterine cavity. If one of the two tubes has remained passable and sound, pregnancy can of course occur.

If the ovarian structure is inflamed, and the connective tissue which surrounds the Graafian follicles greatly infiltrated,

considerable obstacles are thereby created. The follicle cannot burst, the ovum cannot be conveyed into the abdominal cavity, but remains in the ovary like in a closed box, and its junction with the impregnating spermatozoa thus becomes an impossibility.

More important still is, perhaps, the chronic inflammation of the pelvic peritoneum. Extensive adhesions, voluminous membranes may encapsule the ovary so completely that the egress of the ova is prevented or rendered very difficult. They surround the tube, twist it or close its ostium so that the ovum cannot enter or pass through. Compared to this the pelvic cellular tissue becomes of far less importance. The inflammation of these parts leads mainly through secondary displacements of the pelvic organs to sterility.

Relations of inflammatory genital diseases to pregnancy, labour and child-bed.—If a woman with inflammation of the uterine mucous membrane becomes pregnant, there develops from this inflamed mucous membrane a diseased decidua in which inflammatory processes may also be demonstrated microscopically and frequently also macroscopically. Far more rarely the endometritis arises only in the course of the pregnancy.

Milder degrees of inflammatory diseases of the mucous membrane often do not impair the further development of the ovum. In other cases, however, disturbances of some sort do arise: the foetus develops badly (*Hofmeier*), it may even die, especially as a result of secondary displacements of the placenta, and of extensive infarctions or calcifications. Frequently more or less acute painful contractions of the uterus occur; there happen further during the pregnancy irregular hæmorrhages, occasionally also profuse secretions (*hydrorrhœa gravidarum*), or the after-birth period may be disturbed. A specially important event, however, is the frequent occurrence of habitual miscarriage in consequence of the inflammation.

Therapeutically the endometritis cannot be influenced during the pregnancy itself, but after the expulsion of the foetus the treatment of the diseased mucous membrane must, of course, be taken in hand earnestly and energetically.

Of enormous importance are the inflammatory changes in the tubes and in the tissue round them, inasmuch as the main cause of the occurrence of tubal pregnancy with its dreaded results is frequently attributed to them; opinion on the point is, however, by no means undivided despite numerous anatomical observations.

The rarity of the occurrence of parametritic exudations during pregnancy is sufficient excuse for mentioning only briefly that the reciprocal relations between exudative parametritis and pregnancy, labour and puerperium, where they are present in combination, may be numerous and momentous. Those who take an interest in the details are referred to my contribution on the subject in the "*Archiv für Gynaekologie*." Vol. 68.

Permission to marry in inflammatory genital affections.—As already stated, severe inflammatory processes in the genital apparatus do not occur frequently in virgins. What they suffer from is an inflammation of the mucous membrane of the body of the uterus and of the cervix, more rarely in association with inflammation of the ovaries, and still more rarely with inflammation of the Fallopian tubes.

Clinical experience has shown that the chronic proliferative conditions in the cervix and in the body of the uterus which we are accustomed to describe as inflammatory, occur in virgins especially as accompanying symptoms of chlorosis and anæmia and of general physical debility, and also that they are most likely produced by insufficient hygiene of the genital organs, particularly at the menstruating period, by uncleanness or a cold in the abdominal organs, contracted about the same time. Some authors make the same injurious influences responsible also for the development in virgins of inflammation of the ovaries and of the tubes. It is, of course, possible for pathogenic organisms—apart from the tubercle bacilli with which we shall deal presently—to invade occasionally through the blood-vascular or lymphatic system or from the intestine the ovary in a virgin and to set up there an inflammatory activity.

In almost all the more pronounced inflammatory diseases of the genital apparatus, physical cautiousness, the avoidance of fatigue, sexual abstention, etc., are curative factors of the great-

est importance,—demands which, it is evident, newly-married people very seldom comply with. As a rule the sexual excess of the honeymoon, in conjunction with the fatigues of the wedding-trip and the domestic worries which the young wife has to contend with in her new home, is succeeded by an exacerbation of the inflammatory affection.

The physician must therefore urge that, if at all practicable, the conjugal cohabitation shall be preceded by a suitable medical treatment. It is only in rare cases, of course, that local therapy will here be indicated, as f. i., in endometritis with very profuse and weakening menstruations, if internal remedies and recommendations of a general character fail to achieve the desired result; a judicious regulation of the mode of life, a general treatment having as its principal aim the removal of the anæmia or of the chlorosis is more likely to prove beneficial. In addition to this it may be advisable to recommend full or sitz-baths. But where the anæmic and chlorotic complaints are in the foreground, and the discharge or occasional pains in the abdominal organs constitute more secondary troubles, we must remember the experience that marriage exercises sometimes in fact a beneficial effect upon the physical constitution, that the chlorosis often improves in a striking manner and that a pale and fragile creature may develop into a healthy and strong woman; the abdominal complaints disappear then as a rule by themselves. Unfortunately, however, we cannot always reckon upon such a result with certainty.

VI. Tuberculosis of the female genitals in relation to marriage.

If sexual intercourse with a man suffering from gonorrhœa constitutes by far the most frequent cause of the origin of the disease in women, and all the other possibilities of infection (such as sleeping with a person suffering from gonorrhœa, the use of towels, rags, or sponges soiled with gonorrhœal discharge, infection when making a gynæcological examination) are quite unimportant in comparison, we have to register almost the exact opposite with regard to the commencement of genital

tuberculosis in women, as it is only very rarely, indeed, that a tuberculous infection of the sexual organs takes place demonstrably through the medium of the sexual act. It may be recalled in this connection that the estimation of the tubercle bacillus as the cause of disease in the female genital apparatus took a similar course to that of gonorrhœa. As was the case with the latter disease, the importance and frequency of tuberculosis were for a long time thought of little value; in the text-books published 20 years ago the tuberculous affection of the female genitals received little recognition or none whatever, until *Hegar* by his pioneer work on the subject showed the significance of the disease in its true light. Subsequent investigations confirmed almost completely the relative frequency of tuberculosis of the female genitals. To quote here only a few of the more recent statistics in proof of this assertion, let me mention those of *Posner*, who in going through the post-mortem reports of 1300 cases, found uro-genital tuberculosis mentioned in 5% of all the bodies and in no less than 30% of the tuberculous ones. That there had been here no local causes co-operating is shown by the material of investigators in other countries; thus *Turner* in England found among 27 consumptive women tuberculosis of the genitals present 5 times; *Stratz* in Holland demonstrated genital tuberculosis in 22 out of 300 women-patients; *Stolper* in Vienna saw in 34 women who died from tuberculosis of some organ or other, genital tuberculosis present in 7 of them. These figures are, however, in all probability too low, at all events certainly not too high, as shown by a case of *Franqué* who subdivided two diseased tubes in 250 and 290 serial-sections respectively and found definite signs of the tuberculous nature of the disease in only a few of these sections. How easily such cases can remain unrecognised notwithstanding an autopsy and even after a microscopical investigation, becomes thus clearly evident!

It must be admitted, however, that in the majority of cases the tuberculous infection of the genitals is secondary and associated with an already existing tuberculosis in other organs, f. i., lung, intestine, peritoneum, whereas what we have to consider from the point of view of our subject, namely the question

of the transmissibility of the disease through sexual intercourse, depends in the first instance on the presence of a primary tuberculosis of the genital organs and on the complete absence of tuberculous deposits or of a demonstrable later-secondary-affection in other organs.

That tubercle bacilli can effect their first settlement in the female genitals, in other words, that there is a primary genital tuberculosis, may be regarded as proved by a number of careful researches, only half of which, however, can be considered as absolutely conclusive. In these, not only clinical observation, but also careful macroscopical and microscopical post-mortem examination, has demonstrated the absence of disease in other parts of the body, and it is only this latter method which can prove to satisfaction that although there were no other organic changes clinically demonstrable, there were none of an anatomical character which despite their not being recognisable by clinical methods, were nevertheless capable of infecting the genital organs secondarily with tuberculosis.

Production of female genital tuberculosis through conjugal intercourse.—But, if there is no doubt as to the existence of a primary genital tuberculosis, the possibility of infection through the medium of the sexual act naturally assumes an importance of the first rank. Two questions require here answering:

1. Does the spermatic fluid of men affected with tuberculosis of the testis, epididymis, etc., contain virulent tubercle bacilli?
2. Is the semen of a husband suffering from tuberculosis elsewhere, f. i. in the lungs or in the intestine, but whose sexual organs are intact, equally infectious for the wife?

Judging from our present knowledge, the first of these two questions can be decidedly answered in the affirmative; with regard to the second we are not in a position to give any definite reply. The numerous experimental investigations which exist on the subject have partly not been carried out with the necessary precautions, partly the results contradict one another; it is, however, probable that the semen of consumptives whose geni-

tals are normal, can also be infective. I wish to call special attention to the fine research-work of *Gärtner*, who arrives at the conclusion that the possibility of transmission of tuberculosis on the part of a man with tuberculous disease of the genitals is "at least $3\frac{1}{2}$ times greater than in general tuberculosis, but that it still remains insignificantly small."

Cases of tuberculosis of the female sexual organs after intercourse with a man suffering from genital tuberculosis have been reported by *Glockner*, *Wohl*, *v. Franqué*; *Derville* saw 5 cases of married women affected with genital tuberculosis whose husbands suffered from tuberculous epididymitis. *Fernet* communicates 4 cases of primary genital tuberculosis in women who were married to consumptive husbands. *Schuchardt* also draws from his observations the conviction that inoculation of tuberculosis through the medium of the sexual intercourse is by no means so rare as it is generally believed.

A special category is formed by the cases where the infection, though it does take place by means of the cohabitation, is, however, in the first instance due to the salivary secretion which the tuberculous husband may have employed for the purpose of rendering the penis more lubricous. In this way virulent bacteria may be introduced into the vagina from whence they display their devastating activity (case of *Hammer*). Besides, bacteria situated in the vulva and coming, perhaps, from the intestine may sometimes be passed by the sexual act further up towards the internal genitals.

But although the possibility of the occurrence of genital tuberculosis in women through sexual intercourse is beyond doubt, such an occurrence is nevertheless something of a rarity. If this method of infection were at all extensive, genital tuberculosis would be observed far more frequently, and particularly in prostitutes who are so often subject to the risk of being infected by tuberculous patrons. *Veit* assumes that the reason why tubercle bacilli are so seldom transmitted through the medium of the sexual act is, because men suffering from severe tuberculosis of the testis are as a rule impotent—a supposition which is probably incorrect to a great extent and which needs some restriction.

In any event we must remember that the close and intimate cohabitation prevailing between a healthy wife and her consumptive husband offers so many opportunities for the ordinary infection through the medium of the air to take place, which infection can give rise eventually to a secondary genital tuberculosis, that we are justified in considering as conclusive evidence only those cases which are unmistakably proved to be due to primary tuberculous disease of the female genital organs.

Moreover, the settlement and further development of tubercle bacilli, no matter in which organ, presuppose a certain predisposition, in the individual in question and to this rule the female genital apparatus forms no exception. *Hegar* has already pointed out the factors which play an auxiliary part: general physical debility, poor nutrition, severe chlorosis. Further, gonorrhœal disease also prepares the soil and makes it receptive for the tubercle virus. (*Hovas, Schuchardt.*) Favourable opportunities for the further development of the bacteria introduced into the genitals are supplied by the puerperal state, also by an imperfect formation of the genitals (a fact not confirmed by *Martin* at the hand of his material), by malformations in the sexual organs, and finally probably also by traumatic influences, especially epithelial injuries, such as are caused by and during coitus.

Transmission of genital tuberculosis from wife to husband.—The danger of transmission of genital tuberculosis from the organs of the wife to those of her healthy husband through the medium of the sexual act is in all likelihood even smaller than it is the other way about. As far as I could see through the literature there are no conclusive cases proving the occurrence of this eventuality.

Intra-uterine transmission of tuberculosis to the foetus.—On the other hand there can be no doubt with regard to the possibility of the transmission of tuberculosis to the foetus in utero.

Lehmann, as well as *Schmorl* and *Kockel*, have several times ascertained the presence of tuberculous nodules in the placenta. *Bugge* was able to demonstrate in a 30-days'-old child of a mother who died from tuberculosis, tubercle bacilli

in a blood-vessel of the liver and in the umbilical vessels. Guinea-pigs which were inoculated with portions from the child's organs, died from tuberculosis without exception. *Merkel*, *Derville*, *Sarvey*, have also found tubercle bacilli in the fœtus. *Lehmann*, too, reports an undoubted case of intra-uterine acquisition of tuberculosis. It would appear from this that the view of *Baumgarten* as to the congenital origin of tuberculosis which remains latent, only to break out under favourable circumstances, receives at any rate a certain amount of confirmation.

Of great interest is an experiment of *Guzzoni* (quoted by *Amann*) who injected tuberculous masses into the injured vagina of a pregnant animal. The young thrown on the following day died 19 days afterwards from extensive tuberculosis. "It presumably became infected through aspiration of tuberculous masses during the labour process—an observation which, as *Orth* also thinks, is not without importance to human pathology as well!"

Sterility and tuberculosis of the genitals.—

In tuberculosis of the genital organs conception does not at any rate seem to occur often as far as one may judge from existing publications. Important in this respect are particularly the careful observations of *Martin*. *Martin* found as a striking phenomenon that among 24 patients with symptoms of genital tuberculosis there was only one in whom pregnancy occurred unmistakably after the commencement of the tuberculosis. Twelve of them did not become pregnant at all, although they were married to otherwise healthy husbands. In others the sterility-producing effect of the illness was according to *Martin* still more in evidence, if it is borne in mind that they had gone through several labours in rapid succession shortly or some time before their illness. *Martin* goes even so far as to see in the sterility accompanying genital diseases an important indication of the eventuality of a genital tuberculosis.

Further investigations will show whether and how far slighter degrees of tuberculous disease of the sexual apparatus also lead to sterility. That extensive destruction, especially of the tubes, renders a woman sterile, is of course quite evident.

Genital tuberculosis, and pregnancy, labour and puerperium.—But there are at all events cases known in which pregnancy did occur in spite of already existing genital tuberculosis (*Froriep-Rokitansky, Breus, Geil*). The normal course of the pregnancy is, however, interrupted by the disease; miscarriage or premature labour easily takes place. There is even a case known where a woman with uterine tuberculosis became pregnant, and where a spontaneous rupture of the uterus happened in the third month of the pregnancy. (*Mosler*.)

On the other hand it is possible for a genital tuberculosis to develop during a pregnancy, as is seen from the case of *Hühnermann*: Miscarriage in the 5th month, death from sepsis and miliary tuberculosis in the puerperium. The primary seat of the tuberculosis is discovered in the tubes. Judging from the anatomical conditions the same was still comparatively fresh. It was therefore presumed that the tuberculous process commenced after the occurrence of the conception.

Genital tuberculosis can to a certain extent remain latent during the pregnancy and assume a pronounced character in the puerperium, when it may under certain circumstances take a rapidly unfavourable course. It is well known that acute miliary tuberculosis occurs in the puerperium. From the published reports (f. i. those of *Merletti*) it would appear that in connection with labour such miliary tuberculosis may develop especially from a genital tuberculosis. In 5 out of *Merletti's* 16 cases of acute miliary tuberculosis in the puerperium cheesy deposits were found in the tubes. It is, further, also possible, as *Vassmer* supposes, that the tuberculously diseased placental site becomes after the labour or the miscarriage, the starting-point of an acute miliary tuberculosis.

We may at any rate say this: Just as a supervening pregnancy influences injuriously tuberculous disease altogether, so it does genital tuberculosis. Particularly during the puerperium one must be prepared to witness a violent aggravation, and an enormous spread of the disease over the entire organism.

From this we may draw the obvious inference that in tuberculosis of the genital organs pregnancy must be avoided. Cohab-

itation with a wife suffering from tuberculosis of the genitals can therefore be permitted in the condomatic form only.

As regards conjugal intercourse altogether, a decision can only be arrived at in each case individually; in the great majority of cases, however, where there are somewhat extensive changes, a considerable restriction must be imposed.

Permission to marry.—Seeing how serious the prognosis of genital tuberculosis is, permission to marry can only be granted in any given case if a sufficiently prolonged observation, extending over many months, warrants the assumption that there exists a well-marked healing tendency. It is further to be taken into consideration which portion of the genital organs is affected. If the tubes are diseased, the prognosis is notoriously much worse. In addition, the propagative faculty is generally arrested. The imparting of this information will in a good many cases assist in inducing the persons concerned to give up the idea of marriage.

VII. Cancer of the female genital organs in relation to marriage.

The observations made and the fears entertained on all sides with regard to the alarming increase in the prevalence of cancer, which resulted in the formation of a committee, presided over by *v. Leyden*, for the investigation of the disease, have received ample confirmation in the statistical calculations arrived at by that committee: Cancer must in point of fact be regarded as one of the worst national diseases. On the basis of tables giving the causes of death in the German Empire and on that of statistics issued by the Royal Prussian Statistical Bureau, *Wutzdorff* arrives at the following conclusions which may be regarded as fairly incontestable on account of the critical and careful sifting of the material:

1. Cancer is increasing in the whole of the German Empire.
2. All ages participate in this increase.
3. Cancer occurs on an average at a younger age than formerly.

4. The female sex is at the present day still represented in cancerous diseases to a greater extent.

Among the cases of cancer which affect the female sex we must place in the front rank cancer of the uterus. According to the unanimous results of the different statistics, cancer of the uterus constitutes no less than a third of all the cases of cancer put together that occur in the female population.

The transmission of cancer from one spouse to the other: (1) through conjugal life, (2) through cohabitation.—Of the greatest importance to married life is the question of infectiousness, of the transmissibility of cancer from person to person. In estimating these conditions we can, of course, take into account only such cases which occur in non-consanguineous relatives. Cases of cancer in parents and children or among brothers and sisters speak more for hereditary influences and do not come here into consideration at all. It so happens that there are most interesting observations in literature upon the point. *Guelliot* has collected 103 cases of *cancer à deux*—double cancer—that is, cancer which has attacked successively two individuals not consanguineously related, but living in close intimacy. In 89% of these cases—more than $\frac{4}{5}$ —the patients were husband and wife who became ill one after the other; in 63 of the cases the interval was less than one year, in 26 between one and two years.

Behla reports 19 observations of cancer in married couples; in a number of these cases the disease developed at short intervals. *Elsler* communicates privately to *Behla* the following interesting case: "B., a landed proprietor, falls ill with cancer of the rectum; his son-in-law M. who nursed him constantly for about 6 months, was attacked shortly after B.'s death with carcinoma of the lip; his wife—that is, B.'s daughter—developed during her husband's illness cancer of the breast. Neither in B.'s nor in M.'s family had cancer been observed previously."

A further series of similar single observations are found scattered among the literature and several eminent authorities confirm these observations from their own personal experiences. Thus *Czerny* writes: I have extraordinarily often seen husband and wife die from cancer soon after one another.

In favour of the theory that cancer is transmissible under certain circumstances speak also the following cases which were communicated at the 20th Congress for Internal Medicine: *v. Leyden* reported the case of a young individual from Berlin who developed cancer two years after swallowing a carcinomatous liquid.—*Naunyn* called attention to a similar case in which a doctor fell ill with cancer of the stomach some time after having drunk by mistake some cancer-juice.

Several times cancer has also been observed in persons who have nursed patients with cancer, used their instruments, washed their linen, etc. *Behla* made investigation as to the organs which were attacked by cancer in the other married partner, and it is remarkable that they were in the majority of cases the lips, eyelids, nose, mouth, ear and face, precisely those parts which are most frequently touched with the soiled fingers. *Park* observes in favour of the contagiousness of cancer that parts of the face are frequently attacked by the disease whilst the back escapes as a rule. Cancer on the back is notoriously very rare. *Czerny* found among many cases only one cancer of the back, "which could not be reached by the hands."

Of special importance for our subject are those cases in which cancer was supposed to have been inoculated through the conjugal intercourse. In 1887 *Tross* reported a case of cancer of the portio vaginalis in the wife and cancer of the penis in the husband; the cancer of the penis had developed afterwards and the histological character of both carcinomata was the same. A few years afterwards *Guelliot* collected 23 more observations of uterine cancer in the wife and penile cancer in the husband. *Behla* quotes after *Hall* further analogous cases, after *Langenbeck* 3 cases, after *Derndrequear*, *Thomas*, *Duplony* one each. The opposite condition has also been observed. *Watson* and *Hays* and *McEwen* have reported 8 cases of husbands with cancer of the penis whose wives died from cancer of the uterus. For these cases some, as f. i. *Behla*, assume a direct transmission through the sexual cohabitation. It must, however, be pointed out that the rarity of such cases, considering the enormous frequency of cancer altogether, is

not very conclusive evidence in favour of this opinion. To explain this rarity, as *Czerny* does, by the supposition that sexual intercourse is not practised much under these conditions, is not sufficient; it is well known that the cohabitation-hæmorrhages constitute the most frequent cause which brings the women to the doctor.

But if we bear in mind that *Kirchner*, on the basis of *Hirschberg's* report on the enumeration of cancer-patients under medical treatment in the German Empire on the 15th of October, 1900, arrives at the result that in just a seventh part of the entire number of the patients the suspicion of infection is justified we must nevertheless admit, although nothing definite and positive has as yet been established, that the possibility of infectiousness is a factor to be reckoned with and that this factor is of practical importance especially where a cancer-patient is living in close intimacy with a healthy relative.

Behla supposes that the secretions and the blood of carcinomatous ulcers, vomited masses and discharges from the anus and from the vagina, in other words media which reach the outer world, are the carriers of the contagion. Linen, the hands, utensils, etc., coming in contact with them constitute the intermediary agents. "For this there exist opportunities of all kinds, seeing that in view of the general negative opinion as to the infectiousness of cancer the necessary care and precautions are as a rule neglected." *Behla's* demand is therefore that the relatives of cancer-patients should be warned to be careful; he insists upon disinfection of the secretion and discharges, and he also recommends that all sick-room utensils, linen and bed-clothes, specula, syringes, enemata, drinking-vessels, plates, etc., shall be subjected to a thorough disinfection; nursing-attendants should be directed to disinfect their hands after every bandaging. *Braitwaite* goes so far as to demand the cremation of all cancerous dead bodies. Although this last suggestion appears in the face of our present knowledge of the matter exaggerated and unjustified, the cases reported call nevertheless decidedly for increased watchfulness. They compel us to pay some attention to the possibility of the

infectiousness and to insist at least upon a careful disinfection of all the articles used in connection with the nursing of cancer-patients as well as of the persons of the attendants.

Cancer and cohabitation.—We must begin by repeating what has already been briefly mentioned in another place (*Coitus interruptus* and diseases of women), that some authors are of the opinion that coitus reservatus practised for a long time creates a decided predisposition towards cancer of the uterus. *Valenta* thinks that his experiences permit him to assert positively that this factor contributes an appreciable percentage among carcinomatous women, and *Kisch* raises the point whether the marked increase in the prevalence of new-growths in the female genital organs has not some causal connection with the constantly increasing employment of anti-conceptional remedies among the widest classes of the population.

This opinion of *Kisch* is at once contradicted by the fact that it is not by any means cancer of the uterus alone which is on the increase, but that there is a more frequent prevalence of cancer in almost all organs. Besides, the greater frequency of established cases of cancer may to some extent be due to the improvement in our diagnostic aids which permits us to diagnose the disease sooner than it was formerly possible. This view may therefore for the present be regarded as an hypothesis which has not yet been proved, although it satisfies in a certain sense the "theory of irritation."

Mechanical obstacles to the performance of cohabitation are only very rarely present in cases of cancer of the uterus, namely, where the malignant new-growths situated in the vulva are so large as to render the introduction of the penis difficult, or where in the further course of vaginal carcinoma the whole vaginal canal is transformed into a rigid unyielding tube with an exceedingly narrow lumen. Here the immissio penis naturally becomes impossible. In a case observed at the gynæcological University polyclinic in Berlin about 18 months ago, the patient who was suffering from a no longer operable cancer of the vagina, was induced to present herself for treatment on account of the difficulty experienced at the exercise of the conjugal intercourse. Only further questions brought to light the fact that irregular

hæmorrhages had been present for some time along with a malodorous discharge; it must, of course, be admitted that the woman in question belonged to the peasant-class who are often very indolent in the presence of physical complaints.

It hardly needs mentioning that in the later stages of the disease the purulent secretion and the feebleness of the unhappy patient render all conjugal intercourse impossible or at least undesirable in the eyes of both parties, though, as experience teaches, this is not always the case. But that the marital relations need not experience any interruption at the beginning of the illness is clear from the character of the entire process; the first symptoms are by no means alarming; the slight discharge, the inconsiderable hæmorrhages frighten the people concerned so very little, that often enough they are quite free from the slightest feeling of illness. It must therefore be regarded as a fortunate occurrence if the sexual intercourse is instrumental in calling attention to the coming trouble: the hyperæmia of the genitals during coitus causes small blood-vessels to burst in the region of the new growth, or else the pressing penis acts directly as a traumatic agent by rupturing the friable blood-vessels, so that a more or less serious hæmorrhage arises in immediate association with the cohabitation, which acts in the case of persons who are not altogether indifferent as a sort of alarm-signal, dictating the calling in of a medical opinion. Although other isolated causes, such as colpitis senilis, erosions of the portio, etc., may also lead now and then to cohabitation-hæmorrhages, this statement of the patients possesses nevertheless the greatest importance. No doctor should in such cases consider it sufficient—as is unfortunately too often the case—to prescribe something or other and to declare the hæmorrhage as unimportant, as due to hæmorrhoids, or to excessive sexual connection, etc. An immediate and careful internal examination of the genitals is here absolutely necessary, and in the majority of cases the reason of the coital hæmorrhages will be found to lie in a malignant disease. Unhappily even where cohabitation-hæmorrhages are the only early sign of illness, the process is sometimes so far advanced that the chances of even a very extensive operative procedure are very doubtful indeed.

Carcinoma and sterility.—The question whether genital carcinoma prevents impregnation of the diseased woman, whether it has no influence upon it, or whether it favours it, whether it leads to sterility or not, has particularly some little time ago been the subject of a wide discussion. Some believed that cancer of the female generative organs prevents the impregnation of the ovum to a large extent, and renders it almost impossible, others, as for instance *Kohnstein*, laid down the axiom that cancer of the cervix is positively helpful to the occurrence of conception. Neither of these opinions is correct: it depends from the mechanical and chemical conditions present in each individual case whether the spermatozoa reach the ovum in a state of vitality and whether the impregnated ovulum finds in the uterus sufficiently favourable conditions to permit its settlement. Where the disease has already led to the production of a purulent secretion the discharge will most likely kill the spermatozoa directly through its corrosive nature and thus produce sterility. Where voluminous proliferations of the cervix or portio occlude completely the os or cervical canal the spermatozoa will find their passage to the uterus and to the tubes entirely obstructed.

Where, as is usually the case, the occlusion is not complete, and only the external os severely narrowed, there is, of course, a more or less considerable hindrance, but no absolute mechanical obstruction to the occurrence of impregnation, since the spermatozoa require but very little space. But if the carcinoma of the deeper parts is still in the initial stages, if there is no profuse or possibly a purulent secretion and consequently no mechanical obstruction of the passages, there can be no question of any obstacle to conception.

The case is different in carcinoma of the *body* of the uterus. Here the conditions for the occurrence of impregnation and settlement are doubtless far more unfavourable. In the first place carcinoma of the body occurs especially in women who have passed the sexually mature age or at any rate in women whose fruitfulness is considerably diminished—*Küstner* mentions the 6th decade as the average age of predilection. Then, the settlement of the eventually fecundated ovum in the cavity of the can-

cerously diseased uterus is certainly very materially hindered if not, as some believe, entirely impossible. The literature on the point is very sparse. Cases of cancer in the body of the uterus in combination with pregnancy have been reported by *Peter Müller*, *Chiari*, *Veit* and a few others; generally the disease commenced during the pregnancy. In some of the cases, however, the pregnancy is supposed to have occurred while the body of the uterus was already diseased. But *Teilhaver* rightly protests that these cases were probably no real carcinomata and that they must have been malignant deciduomata, a form of tumour with which we have only become acquainted since the publication of those cases. To some extent their description was very imperfect, too. At any rate, we cannot regard the cases published hitherto as conclusive instances of cancer of the body of the uterus in combination with pregnancy, although it is not in my opinion exactly possible to dismiss as altogether unfounded the theoretical potentiality of impregnation or of the settlement of the ovum in commencing cancer of the uterine body.

Double-sided cancer of the ovaries naturally leads always to sterility if the ovarian parenchyma has been entirely transformed into tumour-tissue.

A certain indication as to the frequency of impregnation in existing carcinoma has been supplied by *Stratz*, who has seen in 1034 cancer-patients observed during a period of 10 years pregnancy occur 12 times, that is in 1.16% of all the cases.

Carcinoma and fruitfulness.—In considering the relations between genital carcinoma and marriage, a further element deserves mentioning: How far does a very active exercise of their function by the female genital organs predispose the latter to cancerous disease through excessive cohabitation or numerous pregnancies? As to the first point, various suitable researches have been made in prostitutes (*Glatter*, and others), which have partly yielded negative results and partly been carried out so imperfectly that no definite conclusions can be drawn from them.

On the other hand we may regard it as certain that genital carcinoma is much more frequent in women who have borne children—especially in multiparæ. This applies, however,

only to the cancerous disease of definite parts, namely portio, cervix, and vagina, whilst preceding labours do not seem to play any rôle in carcinoma of the vulva, and cancer of the body of the uterus is even observed pre-eminently in nulliparous women.

The statistical researches of *Gusserow* are very interesting. He found in a number of 580 cases 3025 labours at full term (miscarriages were not included). This would mean an average of 5.1 births for every single one of these women, that is, considerably more than the average number of births when taking all women. These figures have received ample confirmation (*Beckmann, Orthmann, Heinsius*). Some authors quote even higher figures (*Glockner*) and every gynæcologist with a large material at his disposal meets daily with the same experience, namely that cancer of the portio and of the cervix attacks with predilection women who have gone through several labours. *Von Winkel* mentions that he has seen particularly often women attacked by cancer who had a record of difficult labours.

We must therefore admit the furthering influence of the generative processes on the development of cancer in certain portions of the genital apparatus, though we are ignorant of the elements constituting here the decisive factor. *Ashton* and various others believe that labour-injuries at the portio and cicatricial formations succeeding them constitute the cause of origin; *Küstner* lays stress on the fact that cancer of the uterus attacks frequently women who have often borne children as indicating nothing else than that the frequency of the injuries caused by labour and the puerperium are more liable to give rise to chronic inflammatory processes. The first explanation wants, as *Frommel* correctly observes, anatomical proofs, but there seems to be in my opinion something in its favour. According to *Küstner's* hypothesis the body of the uterus in which chronic inflammatory processes connected with parturition are more likely to form oftenest, should consequently oftenest be subject to the development of cancer. But cancer of the body of the uterus is just the very form which is observed pre-eminently in women who have either never borne children at all or shown very little fertility.

The frequency of the combination of cancer of the female genitals with pregnancy.—If a woman with genital cancer is so unfortunate as to become pregnant, or if cancer develops in a pregnant woman, one of the most serious complications is thereby created both in respect to the course of the pregnancy and of the puerperium for mother and child as with regard to the further progress of the cancerous degeneration. The complication of pregnancy and cancer was formerly regarded as exceedingly rare, but the numerous published cases and still more the larger statistical communications on the point have shown beyond doubt that although this complication is not very frequent it is, on the other hand, by no means to be considered as a rarity. *Winkel* found among 20,000 births 10 cases, *Stratz* among 17,832 births 7 cases, *Sarwey* among 5001 births 7 cases, *Glockner* among 26,000 births and miscarriages 6 cases. During my assistantship so far at the maternity-policlinic of the Charité I have seen in 5 years 3 times a combination of pregnancy and cancer of the portio (including one with simultaneous cancer of the vagina), divided approximately among 4000 labours and miscarriages. Taken together, these figures show 76,861 labours with 50 cases of cancer, or 1 case of cancer to 1537 labours and miscarriages. According to *Schwarz's* well-known statistics, there occurred in Hessen-Kassel among 519,328 labours 332 cases of placenta prævia, that is, one to 1564 labours!

Pregnant women with cancer are on an average younger than non-pregnant cancerous women. According to *Sarwey's* calculation, the majority of pregnant cancer-patients are in the 4th decade, and the majority of women with cancer altogether, in the 5th decade. *Sarwey* explains this fact quite correctly in this way, that cancer occurs on the one hand mostly at an advanced age when the highest point of fertility has more or less long since been passed, and conception is to a certain extent a relatively rare event, and that on the other hand pregnant women who are in their best years as far as the propagative faculty is concerned are seldom attacked at that younger age by cancerous disease. "Thus the two conditions exclude each other

to a certain extent on account of their occurrence at different times in younger and older people, respectively, and both have in common only a comparatively small portion of the more advanced time of life in which a woman who still possesses her conceptive faculty, may develop cancer in combination with pregnancy."

What arises first, cancer or pregnancy?—

Whether the carcinomatous disease was already present before the commencement of the pregnancy or whether it developed only in the course of the latter is not always possible to answer with certainty. The anamnestic data from which we can to a certain extent infer the duration of the carcinomatous degeneration are the irregular hæmorrhages and the discharge. But just on these points the information is often of a very indefinite nature only. In one of my cases (Mrs. R.) "traces of blood" were said to have been discharged "through the entire period of pregnancy." The cancer of the portio occupied a space about as wide as a pencil and 4 cm. long on the right border of the os uteri which was about the size of the palm of the hand. Here there were situated hard and knobby masses partly bleeding. There was further on the posterior wall of the vagina an elevated ulcer about the size of a five-shilling-piece and about $\frac{3}{4}$ cm. high, which was very hard and somewhat friable and which bled easily. The connective-tissue was as far as it could be established perfectly free to the palpating finger.

In the second case (Mrs. S.) there was said to have existed "for some months a discharge like meat-water"; the patient also said that there was some hæmorrhage during conjugal intercourse, and at other times too, now and again. The border of the os uteri—about the size of a five-shilling piece—in this parturient woman was transformed to the extent of about $\frac{2}{3}$ of its size, into a more than finger-thick and finger-wide infiltrated, ragged part covered to a great extent with normal mucous membrane. There was but little hæmorrhage during the examination, and no foul pus at all. In this case we can assume almost with certainty that the cancer arose in the course of the pregnancy. Because the cancerous degeneration was only in its initial stage while the labour came on at the right time with the

conclusion of the pregnancy. From the observations recorded in literature it results that the carcinomatous disease existed in the majority of cases probably before the beginning of the pregnancy, as they refer mostly to far advanced stages of the carcinoma at a relatively early period of the pregnancy; generally the anamnestic statements are also accordingly.

Influence of pregnancy and puerperium on cancer.—The opinion was formerly held that the occurrence of pregnancy exercises a very favourable influence upon the cancerous degeneration. *V. Siebold* maintains even that he has observed a spontaneous cure of genital cancer owing to a supervening pregnancy. French obstetricians, it is true, do not go quite so far, but *Pinard*, for instance, considers the rapid growth of cancer during pregnancy as by no means proved, and *Varnier* agrees with him while reporting a somewhat remarkable case:

In October, 1897, the presence of an enormous carcinoma of the portio was ascertained in a pregnant woman. The following year there was again a pregnancy, and death did not take place until October, 1900.

This opinion is interesting in view of *Zweifel's* well-known experiment. He marked by means of a loop of thread the border-line between the healthy and the diseased parts in a case of cancer during pregnancy. A fortnight later the disease had progressed by about two finger-breadths, no doubt a proof of the enormous growing tendency in this case! A short time ago there came into the gynæcological policlinic a patient, aged 32, who had been confined for the 4th time 6½ weeks previously. Three weeks before the confinement slight hæmorrhages had occurred now and then, the labour had taken place spontaneously and without any complications, but during the puerperium the sanguineous discharge had not diminished and latterly it had become exceedingly malodorous. Examination revealed a very considerable, highly purulent carcinoma of the whole portio. The mobility of the uterus was only a moderate one, the parametrium of one side was, if not highly so, at any rate markedly infiltrated. It would not probably be going too far if we were to admit in this case a deleterious influence of the

puerperium; the growth of the malignant new formation was undoubtedly promoted by it very materially.

On the whole it may be regarded as certain, judging from the cases published, that with a few rare exceptions, pregnancy and puerperium exercise an exceedingly unfavourable influence on cancer. The permanent hyperæmia, the severe relaxation of the tissues, favour a rapid spread of the process to a very great extent, and so an intense aggravation occurs as a rule far more quickly than in the absence of pregnancy, and it becomes impossible for the diseased focus to be completely removed. Or else, as it has been observed in a number of cases, the local destruction makes such rapid progress during the puerperium that the women succumb to their illness in the first few weeks after the confinement even though the latter has been a comparatively favourable one.

Influence of cancer on pregnancy, labour and puerperium.—The influence which cancerous new-growth in the genital apparatus exercises on the course of the pregnancy and of the puerperium varies according to the extent of the disease and also according to the seat of the carcinomatous centre. In some cases there is hardly anything noticeable of a serious disturbance in the course of the pregnancy, of the labour and of the puerperium, as in the above-quoted case of Mrs. R., and in that wherein I ascertained $6\frac{1}{2}$ weeks post partum an extensive carcinoma of the portio which must no doubt have existed already at the confinement. In both these patients there had occurred slight hæmorrhages during the pregnancy, but the pregnancy itself had taken an undisturbed course until its normal conclusion. The confinement had passed off without any complications, nor had there been any trouble in connection with the lying-in period.

This is, however, what happens in the minority of the cases. As a rule there occurs a decided and very unfavourable influencing of the generative processes. We can hardly be wrong if we assume in agreement with different statistics that cancerous proliferation occasions in about 30-40% of all the cases spontaneous abortion or premature labour. The reasons for this are of a different kind. Sometimes it is because of the simulta-

neously existing chronic inflammatory processes of the uterine mucous membrane, in other cases it is on account of the spread of the carcinomatous masses in the body of the uterus or into the pelvic cellular tissue, and in others, again, the weakening severe hæmorrhages and the general body-waste seem to play the principal part. Occasionally, however, the pregnancy persists notwithstanding most severe and far-reaching degeneration of the tissues.

In the further course of the pregnancy spontaneous rupture of the uterus may occur through the friability of the diseased tissue; comparatively often placenta prævia has also been observed, probably in consequence of the concurrent inflammation of the mucous membrane.

The disturbances at labour may manifest themselves in 3 directions: first, in the low progress of the labour-act, which may amount to total impossibility of the expulsion of the fœtus in a natural manner, this of course depending upon the extent to which the carcinomatous tumour obstructs the passages and also upon the dilatability of the diseased maternal soft parts. In the case of Mrs. S. which I observed it eventually became necessary to make several incisions in the non-carcinomatous portion of the crown-sized os uteri and to apply forceps, after waiting for 17 hours in vain for the dilatation of the os to make some progress despite comparatively good pains. Otherwise the labour took quite a favourable course both for mother and child. Secondly, very severe disturbances may arise through the laceration of the decomposed morbid tissues in consequence of the pressure from the descending child, and also ruptures of the uterus or of the cervix. Finally, the labour process as such, the expulsion of the fœtus, may occasion an introduction through inoculation of purulent cancer-masses into the lymphatic circulation and thus bring about a more or less serious, and sometimes even a fatal general infection.

That these processes which may act during labour can also exercise a most unfavourable influence upon the puerperium, is perfectly clear. Death from exhaustion or infection, venous thrombosis, entrance of air into the veins, are unfortunately by no means rare occurrences.

Treatment in complication of carcinoma with pregnancy, labour and puerperium.—The limits of this work permit only a brief sketch of the treatment to be adopted in a case where pregnancy, labour or puerperium is accompanied by cancerous disease.

If the anamnestic statements of the patient to the effect that she suffers from irregular hæmorrhages or from hæmorrhage during cohabitation, or from a profuse serous or meat-juice-like discharge, give rise to a suspicion that the case is one of cancer, and if the local examination of the genitals which must, of course, immediately be instituted at all events, confirms this suspicion, the question that arises next is: Is there still a possibility to remove the morbid focus by an operative interference?

If this is so, the radical operation must be performed without delay. Just in cases of complication with pregnancy one often meets with opposition from the pregnant woman as well as from her friends who are anxious to postpone the operation at least until the fœtus is certainly viable. Religious scruples also play here a part sometimes. It is well-known that the decrees of the Catholic Church condemn unhesitatingly the destruction of the fœtus with the object of saving the mother's life, even where the death of the child is certain to occur without any interference either. It is therefore the duty of the doctor to point out to the relatives in all seriousness that the sole possibility to save the mother lies in an immediate operation, that pregnancy supplies a particularly favourable soil for the rapid extension of the process, that in 30-40% of the cases spontaneous miscarriage occurs in any event, but that to wait for this to happen, probably means that there will be nothing left to save.

But if the cancer is still operable and the patient is taken in hand at once the prospects are not at all excessively bad: *Hense* calculates from his statistics that 24% of the operable cases get permanently cured.

It stands to reason that where the embryo is viable—that is in the last two months of the pregnancy—delivery of the same must be effected before the diseased organ is removed. But the artificial induction of premature labour cannot in this connection be regarded as a desirable mode of proceeding. Days

often pass before labour pains set in, and in the meantime the cancer may make rapid progress.

The size of the pregnant uterus hardly plays any important part in view of the great advances made by modern operative surgery. Whether the uterus is to be removed per vaginam or by abdominal section depends of course from the extent of the carcinomatous deposit and from the personal operative inclinations and experience of the individual surgeon. So far it cannot be said that there is unanimity on the point. As a very suitable procedure *Dührssen's* vaginal Cæsarean section—a technically not difficult operation—has recently been warmly recommended by several operators, and advocated among others by *Bumm*. Following delivery of the child per vias naturales according to this method vaginal total extirpation is performed immediately afterwards. In more advanced carcinomata some, like for instance *Orthmann*, rightly prefer the abdominal methods of operation since they offer better chances for the radical removal of the parametria and glands.

If the case can no longer be regarded as operable, there remains of course nothing else to be done but a symptomatic combating of the complaints, and here full regard must be paid to the life of the child.

If the cancerous degeneration is discovered at the labour only, and there exists as yet a possibility of operation, the carefully executed delivery must immediately be succeeded by total extirpation. The size of the recently puerperal uterus presents, as numerous experiences have shown, no considerable difficulties whatever in this respect and must not be allowed to weigh against the risk of unlimited increase in the cancerous proliferation as a reason for delaying the operation.

If the radical operation does not offer any possibility to save the life of the mother, the least that can be done is to attempt everything with a view to preserving the life of the child by the usual obstetric operations. Where a natural labour cannot possibly be looked for it is best to make up one's mind to perform Cæsarean section in good time, that is at a period when mother and child are not yet in immediate danger of losing their life. Should the cancer be discovered during the

lying-in period, the radical operation must, of course, be performed at once if it is possible yet to do so, and not postponed until complete evolution of the parturient canal has taken place.

The nursing of carcinomatous women. Their domestic arrangements.—It is evident that the unhappy sufferers from the terrible cancerous disease can only very imperfectly fulfil their domestic obligations. Unfortunately, however, it is women with large families who are particularly often the victims of the scourge. Nor is it easy for the relatives of the poor patient to exhibit devotion and readiness in nursing them. The penetrating, almost unendurable, odour of the cancerous discharge makes contact with the afflicted woman a dreadful ordeal. I regard as the most suitable remedy for the disinfection of the discharge pads of cotton wool dipped in a solution of permanganate of potash, which can be introduced into the vagina or placed in front of it. They must as a rule be changed every hour.

To correct the smell pervading the sick-room *Küstner* rightly recommends bromine. (Sticks of bromine-marl are placed in a small glass-stoppered bottle. The stopper is allowed to remain loose by means of a strip of paper, and the small quantity of escaping gas is sufficient to remove the bad smell of the room.)

In this way the poor patient becomes less troublesome to those around her, thus her relatives can continue to nurse her with all the loving care they are capable of bestowing upon her without having to suffer through the unbearable stench, until the inevitable end brings release to the sufferer.

VIII. *Myomata and marriage.*

Frequency of myoma of the uterus in married and in single women.—As regards the absolute frequency of uterine myoma, no conclusions can be drawn from the examination of living women or from clinical investigations, as in numerous cases patients with myoma never consult a doctor because they experience no complaints. Only post-mortem results constitute decisive evidence. Among the entire number of 2409 female bodies dealt with by the statistics of *Essen-*

Möller, Winckel and *Fewson*, there were altogether 268 affected with myoma=11%. The figures of individual authors also agree fairly well, and since the observation-material refers moreover to various countries, we may on the whole look upon this number as a serviceable average-distribution of the disease. A curious want of unanimity prevails with respect to the question whether myoma attacks more frequently married or single women. That the uterus when not capable of exercising its energy for further growth and for further development within the physiological limits of the generative process, is apt sometimes to give vent, so to speak, to this tendency by the production of myoma-germs, in other words, that spinsters show to a certain extent a greater predisposition towards the formation of myomata than married women—this is an opinion warmly advocated by several authors. And a few figures seem indeed to speak in its favour. Thus *Schumacher (Fehling)* among others found in 189 patients with myoma in the clinic at Basle, two married women to one unmarried, while in the other gynaecological diseases there were five married women to one unmarried. *Essen-Möller* ascertained in 532 myoma-patients that there was one virgin to two non-virgins; on the other hand, in 11,203 non-myomatous patients the proportion was 1 to 4. Against this, we have the statistics of *Gusserow, Winkel*, and *Schröder*, which are based on altogether 2306 fibroma-patients and which show that 70-77.5% of these were married, a figure giving exactly the opposite result. Those who agree with these authors point out that the reason why relatively many spinsters seek medical advice on account of myoma is, because unmarried women are less affected with inflammatory affections, seeing that the consequences of cohabitation, pregnancy and labour are in their case entirely absent.

The question is by no means to be regarded as settled. The valuable conclusion of pathological anatomists (*Orth*)—who have occasion to observe also such cases which presented during life no material disturbances—that girls who have remained unmarried supply a comparatively high percentage speaks undoubtedly very much in favour of the opinion mentioned first. As a matter of fact *Virchow* says: "I have examined few bodies

of old maids in which there were no myomata found, whereas in many women who had been parous, the uterus remained free even at a very advanced age." It seems to me beyond doubt that post-mortem results deserve here greater conclusiveness than clinical observations, which are after all very much more liable to mistakes.

Abnormal conjugal intercourse as a cause of myoma.—The opinions with regard to the influence of sexual factors on the origin of myomatous tumours are, like those on the etiology of myoma, altogether as yet of an hypothetical nature only.

If *Valenta* considers it from his experiences demonstrated that interrupted coitus plays a considerable part as a causative agent in the origin of myoma, we are bound to admit that his opinion is entitled to respect, but he has not supplied any proofs in support of it. *Kisch* is also decidedly inclined to favour this view. *Veit*, too, considers the imperfect form of intercourse as an etiological moment, no matter whether the husband is less potent than the sensuous disposition of the wife demands, or whether premeditated anti-conceptional remedies are applied. He attaches particular value to the continued irritation if the practice is carried on for many years.

Virchow has already called attention among the causes of the origin of myoma in the first place to "uncommonly high local irritations." That the more or less chronic hyperæmia of the internal genital organs present in these cases can here be of importance as a factor favouring the growth of myomata, is not improbable. Nor can we altogether dismiss the possibility that an "irritation" in the sense of *Virchow*, favouring the origin of the tumour might be contained in these sexual over-excitations. It must be admitted, though, that we have no proofs for this. All we can say therefore is: The possibility that imperfect cohabitation supplies an etiological factor for the formation of myoma does exist, but we can attach no more than an hypothetical value to this opinion.

Myomata and cohabitation.—Obstacles to cohabitation through the situation of uterine myomata are on the whole rare. I saw not long since a case in which the posterior

lip of the portio and the whole posterior wall of the cervix were transformed into a round myoma of a size larger than a child's head, which filled the vagina almost entirely and reached as low down as the introitus. The introduction of the male member was here possible to the extent of a few centimeters only and the regular performance of cohabitation was thereby considerably disturbed. Generally, however, the cervical myomata which come into consideration in the first place permit a sufficient intromission of the penis.

Sexual intercourse leads in some cases of myoma directly to cohabitation-hæmorrhages; the vascular congestion which occurs during coitus can occasion ruptures in the blood-vessels of the simultaneously inflamed uterine mucous membrane. In fact the tendency to hæmorrhages is sometimes decidedly increased by frequent cohabitations. In many cases of myoma where the patients complain of pain, especially of a peritoneal origin, the conjugal intercourse often also causes an aggravation of this pain.

In such cases it is, of course, necessary to prohibit coitus altogether or at least to restrict it materially, whereupon an improvement in the condition generally takes place.

Influence of myoma on conception.—That the presence of a myoma need not necessarily prevent in the least conception and fecundation of the ovum, is seen from the numerous cases in which myomata, especially small subserous ones, are met with in parturient or puerperal women. But the question which we have to ask ourselves is: How great is as a rule the influence which uterine myomata possess with regard to sterility?

It was firmly believed until a short time ago that myomata very frequently cause sterility, and we must at once admit that there are sufficient elements connected with myomatous disease which may render the occurrence of conception very difficult. In the first place the entrance of the spermatozoa is frequently very much hindered through the displacement of the external os, especially in myoma of the cervix. Then, the cavity of the uterus itself is sometimes extremely lengthened and full of recesses, the mucous membrane shows in many places severe

endometritic changes which in their turn prevent the occurrence of fecundation and the settlement of the eventually impregnated ovum. A profuse secretion and abundant hæmorrhages may wash away the spermatozoa, and in a not inconsiderable number of the cases the adnexa are extremely displaced. There are thus sufficient factors in many cases of myoma which may lead to sterility.

This agrees in fact with the calculation which *Olshausen* has made with the help of statistics by *West*, *Röhrig*, *Beigel*, *Schumacher*, *Scanzoni*, *Michels*, *v. Winckel*, *Schröder* and *Hofmeier*. Among the entire number of 1731 married women there were 520 sterile, that is 30%. Since the average sterility of married women is 8.15% (*Peter Müller*) we have here therefore a very considerable difference, even if we take into account the fallacy, as *Olshausen* truly observes, that among these patients with myoma a certain number seek medical advice only because of their sterility.

This view which was entertained by the great majority of gynæcologists with regard to the influence of uterine myoma on the occurrence of conception received in 1894 a severe blow at the hands of *Hofmeier* who in revising his own large material of 213, and later on, of as many as 550 cases, arrived at a negation of the direct and indirect causal connection between myoma and sterility. *Hofmeier* found that in by far the largest number of myomatous patients the myomata as such are not in the least responsible for the sterility of the respective marriages which arises from totally different causes, or has at any rate very little to do with the presence of the tumour. Most marriages are entered into by women in the twenties, whereas myoma does not as a rule commence before the 4th decade has been reached; it is observed much more rarely in the thirties and only quite exceptionally in the twenties. It is therefore not feasible to attribute to myoma the presence of a sterility which has existed for 10 or 20 years.

Hofmeier now goes so far that he not only denies to myoma every importance as a sterility-causing factor, but he actually regards its presence sometimes as a conception-favouring element, in this way, that where myomata are present ovulation

and menstruation last rather longer and conception may therefore possibly occur yet in somewhat older women who would in the absence of the tumour, no longer be capable of conceiving. He quotes in support of this view a number of conceptions in older women with myoma, some of which occurred after a pause lasting for many years.

With regard to this argument I am inclined to agree entirely with *Olshausen* when he says that in isolated cases conception can probably be accounted for by means of this prolonged continuation of the propagative faculty, but that with respect to the majority of cases the simpler explanation of *Nauss* suffices that although myoma renders conception difficult it is on the other hand no absolute obstacle and that conception may therefore very well occur yet even after a longer interval.

Hofmeier tries to explain the fact that a relatively large percentage of sterile marriages occur among myomatous patients and also that single women are comparatively more frequently attacked by myoma, in the same way as pathological anatomists do. He sees in the absence of pregnancy and of the puerperium with their manifold influences upon the uterus an element which promotes the development of existing tendencies, whilst in married and fruitful women pregnancies and the puerperium particularly act more as "retarding" factors. During the puerperium the tumours often disappear completely, inclinations to tumours are counteracted and demolished or arrested in their development. "In this way it is possible to explain without any difficulty how it is that so many women suffer from myoma during their more advanced years, women who have at an earlier age conceived only once or not at all."

The whole of *Hofmeier's* highly meritorious work supplies a uniform picture which acts most convincingly and persuasively. As a matter of fact we can in very many cases of sterile patients with myoma absolutely reject the tumour as the cause of the sterility, whilst it must be admitted that in others such an influence is very well imaginable. Further large statistics tabulated from uniform points of view and with a careful consideration and examination of the individual cases will show to what extent *Hofmeier's* view as to the insignificant importance

of myoma as a cause of sterility applies, and whether the majority of myomatous women have become sterile on account of their myomata or whether they developed myomata because they were sterile.

In order to be able in any given practical case of myomatous disease to express an approximately accurate prognosis whether sterility is to be apprehended or not, various things will have to be taken into consideration. First, we must remember that myomata especially occur chiefly the other side of the 35th year, that, is, at a period of life when fruitfulness begins under any circumstances to diminish somewhat rapidly. Secondly, it is necessary to inquire carefully into other diseases which might be responsible for the sterility, such as for instance gonorrhœal inflammation after marriage, perimetritis, etc. Finally, the seat of the myoma is of considerable importance; the effect of the various forms is not always the same, nor is it interpreted exactly alike by the various authorities (*Gusserow, Hofmeier*). Except in one point to which I shall presently return I am in entire agreement with *Olshausen* who gives in his excellent contribution to *Veit's* manual the following summary: Genuine sub-serous myomata interfere with conception probably in exceptional cases only, large sub-serous myomata form frequently an obstacle (through the displacement of the appendages and the closing of the tubes) but occasionally they only render conception difficult and the latter occurs nevertheless later on. Interstitial myomata (*Olshausen* includes among these the tumours which have already caused a certain amount of elongation of the uterine cavity) constitute a material hindrance to conception (through the disease of the mucous membrane and the changes in the uterine cavity) and if they are of a certain size—corresponding to the third or fourth month of pregnancy—the obstacle is almost absolute.

It is on this point where I differ from *Olshausen*. I have frequently seen conception occur in the last-named kind of cases, and in fact not always with difficulty. In my opinion we can speak here of a material, but not of an absolute or nearly absolute obstacle.

Cervical myomata no doubt prevent conception as a rule

but not always. We may say the same with regard to polypi as is seen especially from those not very rare cases in which the removal of a polypus is soon followed by a conception after a pause of many years.

Influence of myoma on the fertility.—If we wish to study the effect of fibroid tumours of the uterus on the fruitfulness of women, we must in the first place ascertain how great the fruitfulness of non-myomatous women is; we have further to find out the normal percentage of women with one or more children. Having ascertained these figures, it is necessary to establish the average fertility of women suffering from myoma and also the proportion between myomatous uniparæ and myomatous multiparæ. Should there be a sufficiently sure and material difference between healthy women and women suffering from myoma, there remains further to consider whether and how far this difference is caused by the growth of the myoma-tumours.

The average conjugal fertility for Prussia has been calculated by the Royal statistical department for the decade 1881-1890 to amount to 4.4 births. (After *Fränkel*.) The general statistics of Saxony (*Winckel*) show an average fertility of 4.5 births. The reports of the Sanitary Administration of Bavaria give for the 16 years 1876-1891, 4.32-4.96 births as the average marriage-fertility.

On the other hand the average number of pregnancies in women with myoma is given by *Schorler* as 3.4, by *Röhrig* as 3.3, by *Hofmeier* as 3.6, by *Fränkel* as 3.57, figures which show a decided agreement among the different authors. The number is therefore by about one birth less than the average fertility of married women in Germany, which is equal to a diminution in the fruitfulness of myomatous women to the extent of 22%. This considerable retrogression in the fertility applies, as results from the corresponding figures of nearly all authors, in the first place to those women who have gone through one pregnancy only, and afterwards remained sterile. Among 5983 non-myomatous married hospital and private patients *Hofmeier* found 371 or 6.2% thus secondarily sterile, viz.: no renewed pregnancy had occurred after the first confinement for at least

5 years. Against that he found among his 315 patients suffering from myoma who had borne children at all, 63 = 22% who had experienced one pregnancy only and afterwards remained sterile. This agrees fairly well with *Fränkel's* figures: 24.7% single-births in myoma-patients, and only 5% single-births among 2000 women suffering from other gynæcological complaints. The majority of gynæcologists had previously assumed and concluded on the basis of a small observation-material of other authors and from their own experiences that the presence of myomata frequently prevents later conception and that it is therefore the cause of diminished fertility. Against this prevalent view on the influence of myoma on fertility *Hofmeier* also entered a protest by pointing out that the average age of secondarily sterile myomata-patients who consulted him was 42-43, and that on an average 16.5 years had elapsed since their only child-birth. Were we to accept here the general view, we should have to admit that the myomata had for 16 years already produced such alterations in these women as to render them incapable of further conception, while the subjective phenomena had only become manifest quite recently and the condition of the genital organs at the time the disease was diagnosed did not in any way differ from that present in women who have undergone several pregnancies. This would mean that not only the beginning of the disease but also a fairly advanced stage of it was already existent at about the 27th year, which again does not accord with the fact that myoma develops on an average after the age of 35. *Hofmeier* then goes very carefully through his own cases of one-child sterility in myoma and arrives at the result that hardly once was it possible to state with certainty that the sterility was in reality or probably due to the myomatous disease. It is rather elsewhere that the cause is to be looked for than in the later-occurring myoma.

As the cause of the relatively frequent conditions found in myoma in secondarily sterile women, he regards the same element as was already pointed out by older writers, and which he makes responsible for sterility altogether: the absence of the retarding factors which are capable of arresting the further

development of the tendency to tumours, namely the absence of puerperia.

Those who agree with *Hofmeier* in refusing to look upon myoma in general as a cause of absolute sterility will have no difficulty in sharing his views regarding one-child sterility as well.

It is however different in those cases where myomatous women have had several children and have afterwards become sterile.

Here I believe, like *Olshausen*, that "an influence on the part of the myoma is very well imaginable."

But if *Hofmeier* says that the state of things is in secondary sterility alike to that in primary sterility, this is probably true on an average with regard to one-child-sterility only, but does not apply to the gist of *Olshausen's* remarks which do not refer to one-child sterility at all, but rather to those cases where the women have after several labours become sterile through the myoma which has in the meantime made its appearance. Here *Hofmeier's* objection that the beginning of the sterility lies a long way off the beginning of the myoma, can hardly come into general consideration, since those women who have already experienced several pregnancies, are mostly of a maturer age at which myomata are capable of exercising a very considerable influence, indeed.

Although a solitary case certainly cannot be said to prove anything I should, nevertheless, like to mention it briefly, as it illustrates typically the conditions described:

Mrs. Sch., 38 years old, has had three children, the first when she was 25, the second when 28, and the last when 30 years old. All the three labours took place spontaneously, the puerperia were said to have passed off without any elevation of temperature, nor has there been any other illness. For the last 4½ years she has complained of a gradually increasing sense of pressure in the abdomen. The examination reveals a myoma of the cervix, almost as large as a child's head, the external os uteri is situated quite laterally and high up. The husband is said never to have had any illness, preventive

measures have allegedly never been employed, and conjugal intercourse was still regularly being exercised. Who can avoid the impression that this woman was, perhaps, prevented through the myoma from again conceiving, in other words, that there might have been in this case a causal connection between myoma and sterility in a woman in the thirties?

To sum up what has been stated above I should say: *Hofmeier's* teaching that the fibroid tumours have nothing at all to do with sterility and fruitfulness, is very acceptable in so far as it relates to absolute and one-child sterility. But with regard to the absence of later pregnancies the influence of myoma cannot be altogether denied, at any rate it is only the future sifting of a large material and the careful analysis of every individual case that will eventually enable us to form a definite opinion on the subject.

Influence of pregnancy on myoma.—The influence which a supervening pregnancy exercises upon a myoma situated in the uterus manifests itself principally in 3 directions: 1, the position, 2, the size, and 3, the form of the myoma.

1. The effect upon the position of the tumour is so far of very great importance, as there occurs in many cases a sort of migration of the myoma from the true pelvis into the false, a contingency which is obviously of the highest moment with regard to the subsequent labour and the disturbances to be apprehended on account of the position of the myoma. With the elevation of the uterus most myomata also ascend upwards; as a rule this ascent begins in the 4th month, but in some cases the myoma does not leave the small pelvis until the very end of the pregnancy. It is therefore permissible also in the later months of the pregnancy and even at labour-term to hope for the wished-for change in the position of the myoma. On the other hand, subserous myomata inflammatorily adherent to Douglas's pouch, similarly nodules growing into the pelvic cellular tissue and some cervical myomata situated especially deep will naturally allow no change of position, and they are for this reason to be regarded as more unfavourable, seeing that they are more likely to cause disturbances at the labour.

2. Myomata show almost regularly during pregnancy an increase in their size which is in some cases more pronounced than in others but which reaches very often quite remarkable dimensions. Even purely subserous myomata are affected by this increase up to 3 or 4 times their original size. The cause of this growth lies partly in an œdematous saturation (*Gusserow, Nauss*) but partly also in a real muscular hyperplasia, analogous to the growth which takes place during pregnancy in the muscles of the uterus itself. (*Cornil.*) The serious infiltration offers, of course, to the palpating finger a greater softness than the originally hard swelling.

3. The change of form which myomata, especially the subserous tumours with more or less broad bases, undergo sometimes, is the assumption of a flat shape. The originally semi-spherical and markedly projecting protuberance becomes finally a saucer-like tuft, chiefly probably on account of the superficial spreading of the tumour-basis which forms as a matter of fact a portion of the uterine wall.

Other alterations especially the suppuration of the myoma, —which plays in the puerperium a not inconsiderable rôle— are extremely rare occurrences during pregnancy.

On the whole it may be said that pregnancy acts unfavourably on myomata of the uterus inasmuch as it leads to an increase in their volume, on the other hand the upward ascent, the softening and flattening processes which the myomatous swellings undergo have a beneficial influence especially on the approaching labour.

Influence of myoma on pregnancy—In the great majority of cases pregnancy reaches its normal end notwithstanding the presence of myoma-germs, without there arising any particularly disturbing complications. Nevertheless, numerous cases are known in which the influence on the part of the pregnancy was unfavourable and momentous.

Thus miscarriage or premature labour happens occasionally. The premature interruption of the pregnancy is accounted for in different ways. Sometimes the myomatous nodes penetrating the uterine wall prevent its uniform expansion, and in this way contractions may arise here and there. Then again,

the frequently co-existing chronic endometritis renders the development of the impregnated ovum impossible, hæmorrhages ensue which become very pronounced especially in sub-mucous and polypous fibroids and which bring about the expulsion of the fœtus. Finally, it is possible for a retroflexion of the pregnant uterus caused through a myoma to become the cause of an interruption of the pregnancy. (*P. Müller*).

The danger of premature interruption of the pregnancy in cases of myoma is, however, as *Hofmeier* has shown, not materially greater than in ordinary pregnancy. Even under absolutely normal circumstances every 8th or 10th pregnancy terminates on an average prematurely. *Hofmeier* explains the prevalent unfavourable estimation of the complication with myoma by the fact that it is the cases which take a bad course that authors prefer to publish or that impress themselves upon their memory, and also by the circumstance that some authors are too much inclined to at once attribute disturbances of any kind which arise during pregnancy and labour to the simultaneous presence of a myoma.

It is also said that myomata favour the formation of placenta prævia—perhaps, through the intermediary of the chronic endometritis. Cases of this sort are not exactly very rare.

Besides, the occurrence of peritonitic symptoms has been observed during pregnancy, partly through the twisting of the pedicle of the tumour (*Kleinhans*) and partly through the decomposition of the myoma. The frequently rapid growth of the tumour causes sometimes—though only rarely—complaints which may become so acute as to absolutely necessitate an operation. Large myomata of the fundus particularly, which press against the diaphragm can sometimes impair the respiration to a considerable extent.

Myoma and labour.—The influence of myomata on the course of labour has on the whole been formerly very much overrated. Of course, there must always be a number of unfavourable cases where the myoma narrows by its position the parturient canal so much that the passage of the fœtus is rendered extremely difficult or even impossible. But these are the exceptions. In the majority of cases the course of labour is not

affected by the presence of the myoma. Thus, for instance, I conducted not long since a labour at which there were situated in the body of the uterus one subserous myoma, twice as large as a fist and three smaller ones. With the exception of a slight delay in the dilatation-stage, which may, however, just as well have been due to the age of the parturient woman—29—the labour passed off quite uneventfully.

Even such cases in which the result of the examination made during the pregnancy, gives rise to a suspicion amounting almost to a certainty, that the labour will take an unfavourable course, often terminate surprisingly favourably. Nature acts here in different ways and almost at the eleventh hour the obstacle caused by the tumour disappears sometimes during the labour itself. In the first place the ascent of the myoma from the false pelvis which takes place as a rule during the pregnancy, may occur only during the dilatation-stage. An excellent instance of this kind is given in *Bumm's Manual of Obstetrics*: a swelling situated at the lower uterine segment and half the size of a child's head, obstructs the pelvic inlet at the end of the pregnancy, and prevents the head from entering; but while the dilatation of the cervix is going on the fibroid ascends spontaneously and makes room for the advancing head.

A further possible influence lies in the dissolution and softening of the tumour during labour: the venous congestion may produce in the myoma an acute œdema, so that in a few hours the previously hard tumor will become entirely compressible and allow the labour to go on spontaneously to its natural conclusion or at any rate to be brought to an end easily by the application of forceps or version.

Thus *Olshausen* among others describes a case in which multiple myomatous nodules filled the entire sacral cavity so that there was only a space of about 4-5 cm. left between the tumour and the symphysis. The child which corresponded to the last month but one of the pregnancy, was nevertheless born spontaneously, easily and alive.

The knowledge that these favourable influences may possibly assert themselves even at the very last moment, is in so far of the highest value as it will often deter us from superfluous

and frequently serious interference during the pregnancy and at the commencement of the labour.

In some well-marked and characteristic cases, however, we must be prepared to deal with considerable labour-obstacles right from the very beginning. Thus, for instance, when a large myoma of the cervix has grown far into the pelvic connective-tissue; also in those cases where a voluminous myoma is firmly attached to Douglas's pouch by pelveo-peritonitic adhesions.

Such a case I observed two years ago in the maternity-policlinic of the Charité:

Primipara, 37 years old, at the normal end of the pregnancy. The student in attendance reports that the child was born in foot-presentation but that he cannot extract the after-coming head. In examining the patient under an anæsthetic I find that the sacral region is markedly arched forward through a soft but apparently solid tumour as large as a fist and somewhat flattened. The tumour reaches upwards above the ilio-pectineal line. The head is quite above the pelvis, with the chin directed to the right; the child was dead. I could not succeed in displacing the tumour. The carefully executed attempt to extricate the head, as it was, through the narrow passage failed, so it became necessary to perform perforation. In the third stage the placenta had to be removed manually, a very difficult proceeding, in the course of which I ascertained that some more myomatous swellings projected into the cavity of the uterus as well. The obstructing myoma was a sub-serous one and adherent to Douglas's pouch.

That there was in this case a pelvic presentation is in accordance with the results of statistics on the position of the fœtus in utero. They are all alike in their conclusion that pelvic and transverse presentations are much more frequent in the presence of myomata. Where the pelvic inlet is contracted through the tumour being situated in the lower uterine segment, the head is pushed aside and abnormal positions are thus easily created.

The removal of the placenta manually is also a frequent necessity, as in the case described above. The presence of the myoma prevents sometimes the normal contractions of the uterus, hæmorrhages arise which it is often not possible to arrest, except by the manual removal of the placenta. If the larger myomata arch forward into the uterine cavity, this manipulation may, like in the above case too, be attended with the greatest difficulties. Even after the expulsion of the placenta, myomata may sometimes prevent the uterus from contracting properly and thus keep up the hæmorrhage.

Myomata and the lying-in period.—A very material diminution takes place almost constantly in the volume of the myomata during the lying-in-period, the serous infiltration of the tumour and the muscular hyperplasia undergo involution. In a large number of cases the tumour does not only regain the dimensions which it had previous to the pregnancy, but the diminution goes even further, and sometimes the palpating finger is unable to find any traces of the swelling. What has in all probability taken place in these cases is a fatty decomposition of the muscular mass. According to *Martin*, the new-growth undergoes under the influence of the puerperium the same process of puerperal involution as the mass of the uterus itself. He describes a case in which a myoma, twice as large as a fist, was ascertained in a puerperal woman; at the post-mortem made six weeks after the labour the contents of the myoma was found to have become changed into a fatty pulpous mass.

This process must be distinctly differentiated from the decomposition and puriform liquefaction which polypous or submucous myomata undergo sometimes during the puerperium. This happens when the tumours descend into the vagina; through the attenuation of the pedicle the vitality of the tumour suffers and under the influence of the putrefaction-bacteria present in the vagina gangrene ensues. The absorption of this purulent mass may in the further course lead to general septicæmia and death.

If signs of decomposition appear during the lying-in-period it is strictly imperative to remove immediately the morbid focus,

so as to protect the puerperal woman from the threatening danger of sepsis, that is to say, the myoma projecting into the vagina suspended from its pedicle must be excised or scraped out from the vagina, if this has not been done already at the confinement. Sometimes the question of the total extirpation of the uterus is naturally also bound to arise.

On the whole, however, it is best to postpone the projected operative removal of the myoma until after the complete involution of the genital organs. In the first place it is possible that the tumour may undergo spontaneously a considerable diminution in volume during the puerperal period, and secondly, the operation is at all events less dangerous after the lapse of the first six weeks than soon after delivery with its accompanying injury to the parturient canal and more or less numerous wounds in the genital organs.

Treatment of myoma during pregnancy and labour.—The tendency has recently been more and more to treat myoma expectantly. Whereas it was formerly a frequent thing to institute artificial abortion or premature labour in order to avoid the eventual dangers of pregnancy and labour, this practice has now been almost entirely abandoned. And rightly so! For the life of the child is thereby sacrificed or endangered, the patient remains with her tumour, and in very many cases the abortion or premature labour results besides in very unfavourable or even fatal complications: there is a considerable delay in the course of the labour-process, septic infection may occur, or decomposition of the tumour, or almost unstaunchable hæmorrhages.

If one is therefore compelled to interfere in the course of the pregnancy—and an indication for this lies only when the life of the mother is directly endangered or when the complaints caused by the situation or size of the tumour have become absolutely unbearable—the following measures come into consideration: amputation of pedunculated myomata, scooping-out of the more interstitial tumours from the uterine wall, or supra-vaginal amputation of the uterus if the child is not yet viable; all these three operations are to be performed abdominally. As a direct danger to life we must regard, for instance: peritonitic

symptoms or severe cardiac or pulmonary symptoms and signs of compression of the ureters.

In all other cases, however, it is preferable to await the advent of the natural labour, which in many cases where the soft parturient canal is during the pregnancy so blocked-up that no other course but Cæsarean section can be looked for as a solution of the difficulty, takes after all a normal course, thanks to the softening and spontaneous retraction of the myomatous lumps under the influence of the labour-pains or owing to the possibility of their reposition.

At the beginning of the labour-process the reposition of the tumour must therefore be attempted first. This should be done very carefully, with or without the use of an anæsthetic, and if necessary in the knee-elbow position. If this does not succeed after several attempts, there is still a hope that the myoma will ascend spontaneously or become soft. Where the tumours project like polypi into the vagina they should if possible be amputated if only for the sake of the puerperium. In some cases it is easier to scoop out the tumour from the vagina. Otherwise, the more advisable course in the case of the smaller tumours is to wait and to perform, if it becomes necessary, version, extraction by forceps, or, if it comes to the worst, perforation. It is, however, of the greatest importance to avoid severe compression of the tumour, as this favours decomposition during the puerperium.

But if the space is extremely contracted, Cæsarean section immediately succeeded by the removal of the swollen uterus is the more advisable procedure. The after-birth stage must be conducted particularly carefully on account of possible hæmorrhages resulting from the myoma; the prophylactic administration of ergot is always advisable.

Hereditariness of myoma.—From existing communications it would appear as if heredity is not altogether without some importance in connection with the origin of myoma; there exist quite a number of observations where myoma constituted a sort of family-disease, where one can therefore speak of a family-predisposition. Thus *Veit* reports a case where two sisters, a second-cousin of theirs, the mother of this cousin, the

mother of the two sisters, and a real cousin suffered from myoma, the four younger ones of these patients already at the comparatively early age under 24. *Beya* mentions a family in which 4 sisters, mother, grandmother and aunt had all had fibroids. Among 530 cases which *Engström* observed, he found 13 times uterine myoma in 2 or 3 sisters and sometimes also in their mothers. There are also many other analogous communications. It is not therefore going too far if we admit that heredity can play in myomatous disease a certain predisposing part.

Myoma and consent to marriage.—One will naturally not very often have occasion to have to grant to a patient suffering from myoma the medical consent to her marriage. Most girls marry at the beginning of the twenties, whilst myoma does not generally appear before the wrong side of 35.

Nor is it possible in view of the manifold character of the clinical picture which myoma presents, to lay down any precise regulations which shall guide the physician in the granting of this consent. We have to take into consideration in every individual case, the possibility of cohabitation, the chances of conception occurring, the probable extreme or absolute obstruction during natural labour, and also the disturbance in the general health occasioned by the myomatous disease, especially severe anæmia and pressure-symptoms as well as symptoms on the part of the heart. We must finally consider the possibility of removing by operation the myoma without impairing the function of the generative organs.

IX. Ovarian Tumours in Relation to Marriage.

I intend to discuss first in this chapter from the points of view of prevalence among married and unmarried women, heredity, sterility and sexual intercourse, the real new-growths of the ovary, and namely the parenchymatogenous (cystadenoma, carcinoma) as well as the ovulogenous (dermoid, teratoma) and the stromatogenous (fibroid and sarcoma). On the other hand, I leave out of account here the so-called retention-

cysts of the ovary which proceed from the preformed cavities of the ovarian follicle or of the corpus luteum respectively and which generally rest on a purely inflammatory basis. These are treated along with the other inflammatory diseases.

Significance of sexual life in the development of ovarian tumours.—With regard to the question whether marriage exerts a promoting influence on the development of cystomata or not, there exist various remarkable contributions. *Olshausen* found as against 1025 married, 601 unmarried persons with ovarian tumours, a proportion at which *Williams* also arrives from a very large material. According to the official Prussian statistics of 1883 (quoted after *A. Martin*), the proportion of single women to married women is like 100 to 549 in the third decade, and like 100 to 876 in the fourth decade. On the other hand, the figures of *Olshausen* and *Williams* show the proportion in women affected with ovarian tumours to be 155 married to 100 unmarried. These figures certainly justify the conclusion at which *Olshausen* arrives, that single women show a far greater predisposition to the disease than married women.

Olshausen shares the opinion of *G. V. Veit* and *Peaslee*, that women acquire through pregnancy and lactation, during which functions the activity of the ovaries, that is ovulation and menstruation, is suspended, a certain amount of temporary protection against the development of tumours. He assumes therefore that the menstrual congestion favours the development of ovarian new-growths.

According to *Bischoff*, "the ovaries are during pregnancy shrunken, dry, devoid of blood, and the follicles small, quite in accordance with the fact that the ovarian function is for the time being suspended."

But *Martin's* objection that in order to arrive at an objective

¹Translator's note: The author's reasoning is not very explicit, but he evidently meant to say that if the percentage of single women with ovarian tumours compared to the entire number of single women were the same or smaller than the percentage of married women with ovarian tumours compared to the entire number of married women, *Olshausen* and *Williams* could not have had so many cases of ovarian tumour in single women, seeing that there are considerably more married women than single women.

appreciation of this view we ought to know more about the fact of preceding labours, is doubtless justified. For among these "single women" there is many a one who has had one or more children. Among 1005 patients of *Péan* and *Martin* 554 had never gone through a labour and 451 had. But these figures, too, speak to a certain extent in favour of *Olshausen's* conclusion. Voluminous statistics entirely free from objections, but which it is, on account of the multifarious causes that may lead to sterility, very difficult to prepare, will, perhaps, throw more light upon the subject and especially upon the question whether regular and, above all, unrestricted sexual indulgence exercises any influence. So far there is no material of any considerable size at our disposal relating to virgins or prostitutes.

Scanzoni numbered among 97 patients with ovarian tumours, 45 married women. Of these 97 patients 51 had never conceived, and 16 had perfectly intact genitals. *Scanzoni* draws from this the conclusion, that abstinence from sexual intercourse practised until old age has been reached, and the absence of conception, produce a certain predisposition to the development of ovarian tumours.

In cancer of the ovaries, on the other hand, the opposite condition is generally observed. Marriage seems to create a sort of predisposition to carcinomatous disease of the ovaries (*Lerch, Rotenburg, Fontane*). *A. Martin* particularly found among his material an "almost striking connection between marriage and ovarian cancer." There were 48 married to 12 single women. The carcinoma occurred in these cases, like in the material of other observers, just as often in nulliparæ as in women who had undergone one or more pregnancies.

It must, however, be admitted that the figures are not yet large enough to be regarded as fully conclusive.

Ovarian new-growth and sterility.—*Boinet* (quoted by *Olshausen*) found among 500 women with ovarian tumours 390 sterile, and made on this basis the assertion that women with ovarian tumours are barren. *Olshausen* has already combated this opinion with the help of numerical proofs. That in cases of ovarian tumour impregnation is by no means excluded

is proved by the numerous occurrences of the combination of such tumours—which have already existed for some considerable time—with pregnancy. Even in far advanced double-sided tumours the possibility of conception still exists, though it naturally happens more rarely than in one-sided tumours. The occasional finding of fresh corpora lutea in almost entirely destroyed ovarian tissue also proves that pregnancy may occur as long as there remains a trace of ovarian structure in a state of functional activity. Not until the primordial follicles in the ovary have become completely degenerated—a condition which does not, however, occur particularly early—is sterility a necessary consequence. As a proof of the presence of active ovarian structure we may on the whole regard the continuance of menstruation.

If a one-sided tumour leads to sterility, the cause generally lies in displacement of the uterus or of the appendages, in a twisting of the tubes, etc. After the removal of the tumour, and consequently also of the indirect obstruction, it often happens—a fact which *Pfannenstiel* has also pointed out—that the women in question experience yet several pregnancies.

Reciprocal relations between ovarian tumours and pregnancy, labour and puerperium.—Ovarian tumours may undergo in the course of pregnancy, during labour and during the puerperium, very unfavourable changes, and they can in their turn produce an abnormal course of events in the process of generation. It is not only the real new-growths which come here into consideration, but also the so-called retention cysts, cysts of the follicles and of the corpora-lutea, to which the following observations apply therefore just as well.

The combination of ovarian tumour and generative processes is relatively rare. (*Flaischlen*, for instance, found among 17,832 labours at the Clinic for Women of the Berlin University complication with ovarian tumours 20 times, 5 of which only manifested themselves at labour), and for this reason I will deal very briefly with their reciprocal relations.

Spiegelberg and also *Olshausen* are of the opinion that a vigorous growth of the tumour takes place during pregnancy.

The abundant vascularity present during that time is supposed to have a promoting influence just as it acts promotingly on uterine tumours too. A number of individual observations in literature do not, however, correspond with this view, and *Löhlein* has, on the strength of his material, drawn the positive conclusion that ovarian tumours do *not* grow during pregnancy, and that their growth is rather impeded. For the function of the ovaries is suspended during pregnancy, there is an absence of the pre-menstrual congestion. *Pfannenstiel* points out, however, that in the first 3 months of the pregnancy, during which period an active congestion probably takes place in the ovaries through the hypertrophy of the corpus luteum verum, a more rapid growth of the tumour is quite imaginable. Various other authors, such as *Fehling*, *Bumm*, etc., incline more to the earlier opinion that it is at all events not yet possible to look upon the point as definitely cleared up.

A not insignificant number of ovarian tumours cause during pregnancy and labour no disturbances—this is especially the case as regards the smaller tumours which migrate upwards into the abdominal cavity along with the uterus. In other cases, again, the tumours remain entirely unaffected by the pregnancy, but for all that the possibility of reciprocal unfavourable influences is constantly present.

Thus the torsion of the pedicle occurs much more frequently during pregnancy (on account of the compression of the abdominal organs against one another) than at other times, according to *Williams* 3 times so often, especially in tumours situated in the abdominal cavity. The danger of rupture of the cystic tumours is also a greater one during pregnancy.

As to the dangers which the labour-act brings in its train, it is the ovarian tumours which lie wholly or partly in the small pelvis that are especially affected by them. They get compressed more or less severely so that they are apt to burst. This pressure acts in its turn unfavourably on the vitality of the tumour-tissue and in this way the entrance and further development of infectious germs is very much facilitated. During the puerperium this is apt to lead to suppuration. Soon after delivery and at the very beginning of the lying-in-period especially, when

the mutual compression of the abdominal organs is particularly great, there is a considerable danger in the possible twisting of the tumour round its axis with its well-known consequences.

On the other hand, ovarian tumours, especially the larger ones, can cause during pregnancy severe dyspnœa, and they can also bring about through pressure on the uterus miscarriage and premature labour. Out of *Martin's* 55 cases this happened in 5. If an ovarian tumour of some considerable size is situated in the small pelvis, the child does not, in the absence of artificial assistance, descend into the pelvis, and this may eventually lead to rupture of the uterus.

Treatment of ovarian tumours during pregnancy, labour and puerperium.—The artificial interruption of the pregnancy on account of an existing ovarian tumour, as recommended by older writers, is a futile procedure; the child's life is destroyed and the tumour with all its dangers remains behind.

A number of authors recommend as a regular proceeding, that as soon as the diagnosis of ovarian tumour and pregnancy is definitely decided upon, ovariectomy is to be performed, and namely, without delay, if such complications as torsion of the pedicle, etc., have supervened. The mortality among women after ovariectomy during pregnancy is not higher than after the operation in the absence of this condition (*Wähner*). But against that there occurs in 22% of the cases (according to *Dsirne*) a subsequent interruption of the pregnancy, and this is the more likely to happen the more advanced the period of gestation at which the operation is performed. In view of this result, as far as the children are concerned, the advice of *Fehling*—that ovariectomy is not always to be performed during pregnancy, especially where more than ordinary value is attached to the life of the child, as for instance, in primiparæ or in women who have had several children and lost them—deserves some consideration. But *Fehling* also recommends ovariectomy where the tumour grows rapidly or where torsion of the pedicle has occurred.

If one has therefore the opportunity to watch the patient carefully during her pregnancy, it is certainly the correct thing

to wait first with the ovariectomy—with the exception of such cases where the situation of the tumour in the pelvic connective tissue, or its fixation, makes it a matter of certainty that disturbances will arise at the delivery.

At the labour act of course the first thing to be done is to attempt carefully the reposition of the tumour. Hastening delivery by forceps or version is of little avail, as shown by the cases where bruising of the tumour has led to its bursting and suppuration. Against puncture of the tumour there also are serious objections. As procedures coming into consideration I regard only vaginal incision of the cyst with subsequent vaginal removal, and where this is not practicable, abdominal ovariectomy eventually with Cæsarean section.

Hereditary predisposition to ovarian new-formations.—If we bear in mind the comparatively frequent occurrence of uterine carcinoma and uterine myoma among consanguineous relatives, the small number of ovarian tumours in sisters or other blood-relations as compared with the frequency of ovarian tumours generally, is rather striking. *Martin* has collected a number of such cases from the literature. *Löhlein*, who reports a case of double ovarian cystoma in 3 sisters, is justified in asking that more regard be paid to the history of female blood-relations, sisters, etc., when taking down the patient's particulars, so that we may arrive at a decision whether and how far an inherited predisposition plays any part, or whether only an accidental and unimportant equality of the degenerative process in the female generative glands is present in several members of the same family. So far we know very little as to the hereditary predisposition to ovarian tumours.

Consent to marriage in ovarian tumours.—The consent to marriage in the presence of new-growths in the ovary should be withheld. Apart from the fact that about 25% of the tumours are malignant, benign tumours can also create at any time conditions dangerous to life. The permission to get married must therefore in these cases be postponed until the proposed removal of the degenerated ovary has been carried out. Where, as it is frequently the case in small tumours, the diagnosis of retention-cyst cannot be made with certainty, but where

there is a possibility of its being a real new-growth, the same course must naturally be adopted.

On the other hand, there is no reason to oppose the marriage if the operative removal of a one-sided tumour has been successfully accomplished and the patient is in all probability relieved of her complaint, that is to say if the tumour was benign, a retention-cyst or a pseudomucin-cystoma.

Where the tumour was a papillary cystoma, the consent to the marriage should be granted only if the circumstances are particularly favourable, if the papillæ had not broken through the walls of the tumour, if there had been yet no inoculation onto the peritoneum, if it had been possible to remove the tumour unopened, and so on. But if the microscopical examination of the tumour shows to some extent carcinomatous degeneration, the marriage must, considering how frequently these cases do relapse, be prohibited unhesitatingly.

In cancer of the ovaries, marriage is not permissible even if the tumour has been removed on both sides, seeing how bad the prognosis of the complaint is, and how frequently relapses occur, though the tumours have been extirpated comparatively early.

If the case was one of double benign ovarian tumour and both ovaries have had to be removed, that is to say, if the patient has thereby been sterilised, marriage can only be permitted if after fully explaining to both sides the state of affairs, the impossibility of having a family and the probability that severer climacteric troubles will arise somewhat prematurely, the parties concerned are willing to join their fortunes in spite of the unfavourable circumstances. Where it had been possible to leave behind both tubes and a portion of the ovary, the marriage may be permitted on the understanding that the chances of conception are very minimal only.

The sexual sensation is not diminished by the extirpation of a one-sided tumour, but the removal of both ovaries has to all appearances a very unfavourable influence, the pleasurable feeling becomes extinct or materially less; only in 15 and 22.6% respectively of *Martin's* and *Pfister's* cases it remained unaltered after the operation.

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Abbreviations: Z. = Zeitschrift für Geburtshilfe und Gynäkologie. C. = Centralblatt für Gynäkologie. M. = Monatsschrift für Geburtshilfe und Gynäkologie. A. = Archiv für Gynäkologie.

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XXI

Diseases of the Nervous System in Relation to Marriage

DISEASES OF THE NERVOUS SYSTEM IN
RELATION TO MARRIAGE

By Professor A. Eulenburg (Berlin)

*1. Neuro-hygienic and neuro-medical significance of the
married state.*

Marriage problems. Various conceptions of marriage.—Whoever approaches in any way the pathology of married life, if only for the purpose of investigating minutely, from the standpoint of the medical hygienist and practitioner, the effect of diseases on the right to contract marriage, on the course of married life and its prognosis, can hardly avoid dealing first critically with the much-discussed marriage problem as it presents itself before us in the form created by modern and civilised conditions. For according to the conception which one has of the nature and importance of the conjugal state as such, one's opinion as to the influence of diseases—and particularly of the highly important and frequent nervous diseases—on the disturbance and annihilation of the married union is bound to vary considerably. Hardly any other of the great institutions, sanctified by hallowed tradition, which humanity has known how to create for itself in the course of its historic existence, has been the object of such violent and radical opposition, of such complete rejection in these revolutionary and authorities-abolishing times, as marriage. It is hardly necessary for me to recall the views of the social-democrats, that three-million-party which vaunts itself in undisputed possession of the future, views represented in literature by *Bebel's* widely-circulated book "Die Frau" (Woman); it is sufficient to mention the teaching of philosophic and literary celebrities of the recent

past and of the present day which has dug such deep furrows into the modern school of thought. Even those who without denying altogether the justice of contrary opinions, as for instance the views on free love and marriage recently advocated with great eloquence by *Edward Carpenter*¹ and *Jacques Mesnil*,² are nevertheless more inclined to adhere to the historic tradition of conservative ideas, can regard the socio-psychological problem involved in the married state from 3 points of view, namely, from that of the husband, that of the wife and that of the child, the offspring. The State with its legal institutions has probably always appreciated marriage principally from the latter standpoint, that of the progeny, which was indeed bound to be the most important in its eyes, as an institution for the "generation of legitimate children"—(ἐπ' ἀρότρῳ παίδων γνησίῳν) as the corresponding old Attic legal formula puts it. The Church was more concerned with the consecration of the matrimonial compact—but also more on account of the earliest possible acquisition of the child; these objects were attained by the elevation of marriage into a sacrament and by the sacramental baptism of the newly-born. If marriage was thus in the eye of the State a legal institution and in the eye of the Church a sacrament, it became in the eye of society which was gradually developing along with, and above, both of them mainly a business-transaction, a sort of life-partnership, and at the same time, as a matter of course, the legally-sanctioned and therefore the pleasantest, and for the women of the better classes the exclusive, method of "legitimate" gratification of the sexual desire. And so *Nietzsche-Zarathustra* had cause to sigh over what "far too many call marriage," over "this poverty of the soul in twos, this filth of the soul in twos, this miserable ease of the soul in twos," while exalting in marriage in its highest sense the will "to create the one Thing which is more than they who created it."

¹"Wenn die Menschen reif zur Liebe werden," Deutsch von *Karl Federn*, Leipzig, Hermann Seemann Nachfolger, 1903.

²Freie Ehe, Schmargendorf-Berlin, Renaissance-Verlag, 1903. Compare also *Ruth Bré*, Das Recht auf die Mutterschaft, 2. Aufl., Verlag der Frauen-Rundschau, Leipzig, 1903; *Ellen Key* über Liebe und Ehe, Berlin, S. Fischer u. a.

Amid all this strife and contention, marriage, humanity's great problem, has never ceased to attract the attention of far-seeing thinkers and observers from psychological, ethnological and sociological points of view. From the standpoint of jurisprudence and theology, of medicine and hygiene, of political and economic science, of anthropology and the history of civilisation, this subject which has always and equally interested and fascinated every new generation of mankind, has again and again also received every possible consideration. Sceptics like *Montaigne* and *Stendhal*, realistic descriptive writers like *Balzac*, idealists like *Michelet*, ascetic quietists like *Tolstoi*, and numerous others have devoted to it mind and pen; and what has been achieved on this point in romance and in the drama, which have from times immemorial found in it a predominant source to draw from, what good and doubtful literature has been created in extolling or discrediting the married state, would, if collected, fill not volumes but entire libraries. From the Books of Ruth and Esther, from the High Song to Sakuntala, from the Arthurian romances and the legends of St. Genevieve down to Othello, the physician of his own honour, from Don Juan to Goethe's *Wahlverwandtschaften* and *Madam Bovary*; from Euripides to Molière, Goldoni, the younger Dumas, Hebbel and Ibsen; from Boccaccio to Maupassant and Amalie Skram: what enormous transformations, what contrasts, both as to time and place, in the views respecting marriage, pass in review before our eyes in the giant-mirror of the literature of the world, like in Macbeth's witches' glass the endless line of kings from Banquo's blood!

Of all these opposing tendencies—which have only partly been really overcome—of all the rubbish which the stream of historic development is continually depositing in this direction, the effects on the contending opinions and feelings, on the ways of thought, diverging more than ever at the present juncture, are only too apparent. For what is marriage to-day, and in what light does it appear to a great many who think themselves, or possibly are, "modern"? To some, it is but a stale and antiquated legal institution, crawling along, like so many others, as an eternal disease. To others, a business, a profitable adjust-

ment in the exacting and unavoidable struggle for existence, a partnership between two egoisms involving the individual partners in as limited a liability as possible, and subject to as short a notice as practicable. Very few, probably, regard it yet from a religious-ethical standpoint, as the highest and most intimate personal life-long union desired by God and nature, as a school of mutual devotion and self-education for the protection and loving care of the chosen companion. It must be admitted, though, that, true to her traditions, the Catholic Church has up to the present day adhered firmly to the sacramental character and absolute dissolubility of marriage, whilst Protestantism has here also become entangled half-way, and almost all the States which pose as "Christian" have long since been compelled by reasons of opportunism to introduce civil marriage and to facilitate divorce. To the impartial observer of human frailty marriage with all its present-day defects and imperfections must appear as the lesser or the least of all the evils that can be imagined in its place, but nevertheless as an evil. To the modern autonomism which relies entirely upon itself, to the desire for independence which suffers and knows no limits, to the Promethean spirit which defies every moral and legal enactment, married life with the whole of the consequential altruistic or at least dualistic demands attaching to it, appears as something unnatural, something totally unintelligible, totally senseless and futile. The sensualist may find his view expressed in the old French rhyme: "Boire, manger, coucher ensemble, c'est mariage, ce me semble," a conception of marriage which, by the by, still receives a certain amount of official confirmation in the traditional separation-formula "mensa et toro"; satirical propensity may find unalloyed joy in *Logan's* sharp-pointed epigram: "Was ist die Ehe denn? Sie ist ein Vogelhaus. Die draussen, woll 'n herein, die drin sind, woll 'n heraus (What is marriage? It is a bird-cage. Those outside wish to go in, those inside wish to get out.) or in the words of *Talleyrand*—who married late and badly—"union de deux mauvaises humeurs pendant le jour, et de deux mauvaises odeurs pendant la nuit." No end of people have exercised their wit at the expense of marriage and poured cupfuls of more or less clever

sarcasm at it, from *Aristophanes* whom it is impossible to quote, to *Ludwig Fulda* whom it is hardly worth while to quote, and according to whom the "acute nervous disease: love" gets cured by the "mild cold-water-cure: marriage." We may also refer to *Oscar Wilde*, who says: "Men marry because they are tired, and women because they are curious; they are both disappointed."

Modern tendencies inimical to marriage.—

More serious, however, than these elegant and frivolous nothings are two attacking forces which proceed with full deliberation, though from two opposing camps. The one draws its ammunition from the armament of that extreme and unlimited individualism which is so strongly represented in the newer and newest literature, that autonomism which raises the own "ego" to the centre of the universe while scorning or despising every altruistic impulse as a silly sentiment. If this moral anarchism which denies on principle all social obligations and lawful institutions, and which aims at destroying society into atoms again, is in stupid self-deception shooting wide over the mark, and is bound, if persevering to a logical conclusion, to incur merciless cursing or ridicule in its attempt at "Uebarmenschentum," it is nevertheless undeniable that our time particularly possesses an enormous number of problematic natures who are either in reality seized by so genuine and strong a craving for independence, or frequently affected by accumulating petty desires for unconstraint, that in the first of these cases they burst their marriage-chains, and in the second they constantly rattle at them, while subjectively they both feel them equally unendurable. To some of them *Zarathustra's* much-abused word may apply: "It is true that I broke my marriage-vows, but the marriage vows first broke me." To others, the saying of the same wise man: "Many short follies: that is what you call love. And your marriage puts an end to many short follies by a long stupidity." To these sayings we may as well add another: "Do not laugh at such marriages! Is there a child which has no reason to cry over its parents?"

If the disgust with marriage and the married state emanating from these circles finds its physiological and psychologi-

cal background in the unrest and nervousness of our contemporaries which arise from our modern over-culture, one feels, on the other hand, almost inclined, when observing the attack proceeding from the exactly opposite camp, to believe in an atavistic return to apparently long-since forgotten mental ways. These attacks originate partly from a moral command which asserts itself with morbid partiality and is opposed to all sense and nature, and which in some—and not the worst—individuals may amount to a world-forsaking and world-avoiding quietism and asceticism; the most conspicuous example of this we have in the pure and respect-commanding personality of *Tolstoi* and in his later literary productions. We have only to mention the much-read and much-discussed “*Kreuzer Sonata*” with its disastrous effects upon so many narrow minds. Of course, in laying down here and in other works sexual purity and abstention as an ideal demand, also in the case of adults including those married, *Tolstoi*, evidently misunderstanding a remark attributed to the person of Christ, allows himself to be influenced by that monastic tendency of the mediæval Church which forced celibacy upon the entire clergy as a higher and purer mode of life, and which went so far as to raise to the rank of a saint Henry II. on account of his reputed chastity during his marriage with Kunigund. But then, *Tolstoi* also lends his support to certain most modern aims and tendencies and to the watchwords of a pessimism and nihilism which border in part directly on the pathological. To give a most recent pertinent literary example, let me mention the systematic treatment of this “neo-nihilism” by *Kurrig*¹, whose opinion is to the effect that the negation of the will to live, as taught by *Buddha* and *Schopenhauer*, must find its adequate expression in the voluntary repression of the generative desire, and who consequently despises and rejects the procreation of children as an act of the highest immorality, as a cruel injury committed against the individuals brought to life, which cannot in any way be repaired.

Here we have therefore the complete antithesis to *Zarathustra*, who imagined that he saw in the child aimed at, the future

¹*Kurrig*, *Das Sexualleben und der Pessimismus* (Leipzig, 1897); II. (Dialoge und Fragmente), 1898.

"Ueberschensch," the saviour. "I desire that thy victory and thy liberty shall long for a child. Living monuments thou shalt erect to thy victory and thy liberty." "Thou shalt perpetuate thyself not only onward but also upward! In this thou shalt be aided by the garden of matrimony." But in this neo-nihilism and its allied tendencies, as for instance in the abstention-theories preached in numerous works by *Dr. Norbert Grabowsky* and in the "reform-marriage"¹ recommended by an American lady, *Dr. Alice Stockham* of Chicago, we seem to have reached the limits of common-sense and understanding. This is hardly less so in the case of a recently-published work with high scientific pretensions ("*Geschlecht und Charakter*," eine prinzipielle Untersuchung von *Dr. Otto Weininger*)² which has gone so far as it is possible to do in misjudging and disgracefully slighting the female sex, and which arrives therefore at the result that absolute male abstinence is a necessity, that sexuality must be completely ignored; "man must free himself from sex, thus and only thus can he make woman free." A real castration literature! What is strange in this connection is that the ill-sounding voices of these masculine-non-masculine abstention-fanatics have now and then been capable of finding an echo among the occupants of the female camp.

Hygienic and educational effects of marriage.—In opposition to these and other similar modern currents of thought we must first of all hold fast to the conviction, trite though it be, that marriage with all its necessary human defects and imperfections has after all done a great deal for the material and moral improvement of mankind, and is doing so yet; that it is superfluous and senseless to argue about its justification, because were it possible to remove it by one decree to-day we should only have to reinstate it by another decree to-morrow, just as the French revolution had to do after abolishing the deity; and that here like in almost everything else the question is not to check the damage by a fundamental change, but

¹A new mode of sexual intercourse which excludes the "evolution of the highest excitation," substituting therefor ideal enchantment and visions of a future life!

²Vienna and Leipsic, 1903.

by a thoughtful amelioration, or in medical terms, to perform not a radical operation but to apply a conservative and at the same time relief-bringing and invigorating method of treatment. In this conviction we must not falter, even when attempting to lay down empirically the highly important and momentous relationship existing between the married state and diseases of the nervous system and to draw from it conclusions of a practical nature.

I may probably consider myself in agreement with many, and certainly not the worst observers, if I see in marriage as it should be, in this direction particularly, an undoubted preventive factor of the highest importance and not rarely one of cure as well: an incomparable and irreplaceable element of self-discipline and mutual education acting with an unconscious natural power, no matter whether it is that genuine love which "bears all and suffers all," or whether it is only a feeling of sympathy, of esteem or affection, or even nothing more than the influence of social consideration and familiarity, that plays the decisive part. Marriage is at all events, even under present conditions, a by no means insignificant power in the creation and multiplication of altruistic sentiments, and in its further action in the maturation of thought and of the will-power, in the development of the entire character. This individual-psychological, ethical-pedagogic value of marriage is unquestionably of the highest importance to both married partners, but principally to the wife. It may be said that for the man who enters as a rule the married state when already mature and hardened by education and the experiences of life, matrimony is also an excellent school of altruistic activity, loving accommodation to patience, considerateness and self-denial—at any rate it can and should be so; but in the case of the female spouse marriage only means full maturity, the completion and realisation of her own personality, which in the absence of marriage develops at any rate far more rarely and with greater difficulty, and then very often in the not exactly pleasant and sympathetic forms of old-maidenhood—although the latter is no doubt frequently unjustly reviled—as an unpalatable late fruit. For it cannot be denied that the physiological conditions of married life, physical love

and maternity, exercise upon the female mind still capable of development, a powerfully exciting and ripening effect, and that on the other hand their absence is generally associated with a somewhat insufficient formation of the character and of the personality, at least in certain directions. It must therefore appear the more strange that many, and even highly accomplished, representatives of the female sex both in Germany and other countries have recently exhibited inclinations approaching the above-described ascetic tendencies aiming at sexual purity and abstinence. Although the number of those women who have for selfish motives endeavoured to avoid the burdens of pregnancy and childbirth, the obligations of motherhood, has for some time now been rather large—it is particularly the American women of the upper classes who have often been reproached for this dereliction of duty—they were not at least on principle averse to the idea of physical love, provided it was surrounded by the necessary precautions; nor is it only during recent times that opportunities have arisen in the quiet of private life and in literary publications to meet female types who do not by any means look forward joyfully to the functions lying within the natural limits of the generative sphere, but who rather dread and avoid them, or regard them even with a certain amount of æsthetic and moral disgust. *Molière* has already described such types of women in “*Les Précieuses Ridicules*.” Of course, they are not quite serious over it, they merely play at being disgusted with the horrid idea “*de coucher contre un homme vraiment nu*”; other dramatic forms of the same school, *Shakespeare’s* Princess of Navarre and her ladies of the Court, *Moretto’s* Donna Diana, and *Bernstein’s* youthful fairy-queen, are only too ready, when the right man turns up, to change their views easily and rapidly. On the other hand, dramatists—and not only *Ibsen* in *Nora*, but almost a generation before him, *Gutzkow* in the heroine of his play *Ella Rose*, performed in 1856—have portrayed women who have rightly chosen to run away from their marital obligations and whose inner natures compelled them so to choose, because their own marriage did not satisfy them, because it appeared to them too narrow for their psychical development and for the desire to live their lives, and

because it became to them on account of this narrowness an unendurable agony.

"If marriage is too close, it becomes a curse"—these are the words in which *Gutzkow* expresses the last thought of his heroine in a letter addressed to Titus Ulrich; and with a similar phrase Nora also runs away from the doll's house of her married life. But what we, and especially we medical men more than others, often have an opportunity of seeing at the present day and of hearing from women's lips, is not only rebellion against mental confinement and subjection in the married state, but actual abhorrence and indignation against the exercise of its indispensable physical demands—and this not so much on account of a feeling of shyness or similar motives, but from totally different impulses pertaining to the region of newly-awakened desires for liberty and the eagerness to combat the natural prerogative of the male sex. Thus these objects seem to approximate accidentally those of the asceticism described above, but they resemble to a greater extent and in their foundation the aim of the individualism which recognises no obligations or authority but simply the autonomy of the personal ego. But like in the latter, so in the former, care will have to be taken that they do not assume too great dimensions, that the seed sown by these radical women's-rights champions be not more productive than that of their ancient precursors, the men-fighting amazons, the brave Lysistrata and the Ecclesiastusæ.

It were also possible to point out other directions in the modern woman's movement which partly deter from marriage and partly act on the married state as a dissolving and disintegrating ferment. It is sufficient to think of the growing tendency within the larger organisations of the women's movement, to take, in the conflict between the economic independence and importance of woman on the one side and her natural duties connected with motherhood on the other, a decided stand in favour of the former and so to extol their value and significance at the expense of the latter as to cause almost their total extinction; absolute precedence is claimed for "mental" work, as creating far higher units of civilisation than the allegedly lower duties of the household and of maternity. It must be admitted,

though, that highly cultured women such as *Laura Marholm* and recently *Marie Diers*, have protested against these mistaken and preposterous notions, and rightly pointed out that these supposed newly-created high units of civilisation are for the present of a very problematical nature, while the certainly desirable material independence of woman is not an end in itself, but must be regarded only as a preliminary in the fulfilment of the duties and obligations imposed by nature.

In the face of such misleading tendencies it must be distinctly emphasized that the duties and obligations which marriage brings to woman are of such a varied and comprehensive nature, that if properly understood and carried out, they offer to female ability the widest opportunities in almost every direction. If to some women the less desirable physical duties of married life appear to occupy the front rank, the inconveniences and burdens connected herewith will in the eyes of the more educated and thoughtful women be got over by the meditation that they are sacrifices which every one individually must bring for the welfare of the family, of society and the State in general, and that only in this way can the right be acquired to be recognised as a useful member of humanity and as one who is doing her share in the general process of development; these sacrifices are, besides, immediately repaid by the educational concern for the child and the personal devotion, which constitute a source of the highest and purest gratification and secure an irreplaceable, truly creative and living cultural occupation.

We thus arrive in this way, too, at a recognition of marriage, in which the rights and duties of woman relating to domesticity and motherhood are for the present still being realised in the most desirable manner. Thus, in whichever form we consider the subject, the result is not exactly an apologetic appreciation of marriage, but so far, one which carefully sifts all the pros and cons. Like hitherto, and like for thousands of years, marriage still presents the only practicable method by which the sexual life can be permanently ennobled, by which it can be made to serve altruistic objects and to fulfil higher ethical and social purposes; in no other way can the most powerful of all natural impulses be utilised for and subjected to the onward-

pressing development of civilisation as a driving force. What marriage, as an element of culture, has accomplished on the whole for the benefit of mankind is writ large upon all the leaves of history. What it means for the weal and woe of every one individually, he who knows how to observe and how to interpret what he has observed can see and find out daily for himself, or he can read in the columns of the daily press unsophisticated accounts of the dark side of married life, with its conjugal tragedies, conjugal errors and divorces. To a still greater extent, doctors and particularly specialists in nervous and psychical diseases, have opportunities, surpassing by far what they wish and like to see, of glancing into the most hidden corners of conjugal secrecy and of lifting the veil from mysteries which often endeavour by well-calculated deception to conceal shame and disgrace, frequently misery and disease, behind a glittering exterior and apparent self-assertion.

2. *Nervousness and Neurasthenia.*

Essence of nervousness and neurasthenia.—

We may consider it immaterial whether the two notions "nervousness" and "neurasthenia"—which are at all events closely related—are exclusively congenital abnormal forms of perverse reaction to the irritants of the outer world, or whether, as it has been recently suggested from various quarters, we are justified in regarding "nervousness" as an ACQUIRED anomaly in opposition to the CONGENITAL morbid weakness of the nervous system, usually resting on an hereditary predisposition, which goes by the name of "neurasthenia." There is no doubt that both these terms and conceptions date much further back than our generation—ignorant as it is of history—generally believes; while the notion "nervousness" is fairly equivalent to *Bouchut's* "nervosisme" or "état nerveux," to "névrose générale" or other such synonyms, we often come across the term "nervous debility" and its derivatives in the writings of German authors of the 18th and still more of the 19th century, fully a hundred years before its supposed American discoverer *Beard*.

It is well known that the expression "neurasthenia" or nervous debility does not exhaust the essence of the disease, since it brings into the front rank only the element of weakness, while leaving entirely out of account the no less important and conclusive element of morbidly increased irritability. In looking at the matter more closely we find that the irritation-threshold for sense-impressions in neurasthenics is to a certain extent depressed, and namely not so much the threshold of the real sensations, but rather that of the common feelings which are experienced in the nature of a "disinclination"—the *Schmerzschwelle*" (pain-threshold) or better said the "*Unlustgefühlswelle*" (disinclination-sense-threshold). As a matter of fact, it is characteristic of neurasthenics that feelings of disinclination, negative sense-sounds of the perception, make their appearance already after relatively weak irritations, and that they distinguish themselves by an intensity and persistence out of all proportion. Experience has shown that this takes place particularly after irritations proceeding from organic feelings, from feelings arising in the body of the sufferer, which penetrate into the consciousness as intensified and long-lasting feelings of disinclination and give rise to most various sensations of anxiety and constraint, to firmly established fears and illusions, the characteristic "phobias" of the neurasthenics. If to the morbidly increased irritability of the sensory nerve-paths there is superadded an excessive tiresomeness and exhaustiveness of the motor nerves particularly, a most fruitful source is created for the production and dissemination of morbid disinclination-feelings. For mere physiological fatigue, and still more the pathological process of "over-fatigue" or "exhaustion," is accompanied by negative sense-sounds, by feelings of disinclination of a very pronounced character, and the reaction to irritation is in the over-tired cells and their neighbourhood, in accordance with the law of fatigued and dying nerves, far more intensive and extensive than after the irritation of normal non-fatigued and non-exhausted nervous organs. Such an abnormal mode of reaction would, judging from the causal connection, lead us to suspect the origin in a specific neurasthenic alteration in the nervous organs, in the principal elements of the nervous system acting

as receivers and conductors of the excitation (neuro-fibrillæ, according to *Apathy-Bethe*)—an alteration as to the nature of which, like with regard to the neuralgic and spasmogenic (epileptogenic, hysterogenic) changes we are, it is true, so far in the dark yet, but the gradual clearing-up of which we may justly look forward to, sooner or later, seeing what astonishing results have already been achieved in this direction in virtue of the constantly advancing improvements in the examination-technique. When this object will have been attained there will presumably be no longer any convincing reason for substantially distinguishing nervousness and neurasthenia as “functional” neuroses or neuropsychoses, from the organogenic or histogenic diseases of the nervous apparatus which are already known to rest on coarser and demonstrable changes in the substratum.

For the present, however, we are still obliged to picture to ourselves the mode of action of these supposed “neurasthenic changes” to a certain extent, at least hypothetically, from our also as yet very imperfect knowledge of the elementary processes taking place in the mechanism of the physiological nervous activity. We cannot of course enter here into the numerous pertinent older and newer explanations resting on chemical, mechanical or functional phenomena, but I wish to call attention briefly to the “energetic” theory of *O. Rosenbach*, which is especially applicable to the classification and treatment of these conditions. On the strength of this theory, with which we shall not deal here in detail, *Rosenbach*¹ distinguishes three main groups of nervous individuals, namely:

1. That of constitutionally nervous persons who are through a congenital and hereditary predisposition and through a wrong bringing-up at an early period, inclined to special disturbances in the region of the sensory and motor innervation, which make themselves apparent after the slightest provocation, who exhibit therefore permanently “an alteration in the principal activity of the nervous apparatus”;

¹Energotherapeutische Betrachtungen über Morphinum als Mittel der Kraftbildung. Deutsche Klinik 1902. — Ueber Nervosität und ihre Behandlung (nervöse Zustände und ihre psychische Behandlung). 2d edition—Berlin 1903.

2. The group of individuals who are nervously exhausted only by an imperfect form of the activity, that is, through abnormally great physical or mental demands, either periodically or during the duration of these abnormal conditions of life; and

3. The class of weak-willed people, including those who become perversely innervated under the influence of wrongly-directed will-representations, and in whom according to *Rosenbach* there is no longer a question of somatic disturbances in the nervous organs, but of abnormal processes in the region of the purely mental activity (abulic insufficiency or psycho-motor regulatory disorder).

From a psychological point of view *Hellpach* in his recent remarkable work "Nervousness and Culture,"¹ thinks he has discovered the origin of nervousness in the excessive increase of a normal psychical process, the "contrast of sensation." By this is meant that contrasting feelings strengthen each other reciprocally, so that a sensific experience furthers the succeeding indifferent mood towards the direction of an opposite feeling. But whereas in a healthy individual the prevailing sensation appears more uniformly feebly accentuated and permits even after strong emotional interruptions comparatively slight and ephemeral contrasting phenomena, this is in congenital "neurasthenia" as in acquired nervousness quite different. The former lacks from the beginning the uniformity of sensation within the ordinary daily life; all impressions and recollections, even the most commonplace, manifest themselves in strong forms, and this increase takes place amid signs of intense sensation-contrasts, that is, amid rapidly changing humours of an opposite character. In this way the voluntary actions of these individuals also acquire easily something apparently "incalculable," while in reality they always remain adequate to the slight, but rapidly altering, state of the disposition.

¹In "Kulturprobleme der Gegenwart," edited by *Leo Berg*, 1902.

Ingenious and to a certain extent justified as this view is, it is, nevertheless, open to well-founded objections; at any rate it can hardly be regarded as a sufficient criterion of the nervous and neurasthenic conditions. The characteristic phenomenon in the latter is, on the whole, not so much the occurrence of contrasting feelings and contrasting dispositions, as rather the decided prevalence of disinclination-feelings, so that comparatively weak excitants which are ordinarily scarcely stimulating or even depressing, give rise to more or less intense and persistent disinclination-feelings, while the contrasting inclination-feeling is on the other hand entirely absent. If the neurasthenic receives an unpleasant letter in the morning, or if he reads something in the newspaper which causes him excitement or anxiety, this is, perhaps, enough to make him feel bad all day, and it cannot certainly be expected that he will immediately afterwards be seen in particularly good spirits, or full of life and happiness. Especially the uncalled-for anxious feelings which are so often characteristic of neurasthenia, the specific "phobias," lack as a rule completely just as much a sufficient cause—as they appear to arise more from abnormal sensitiveness of single organs, from abnormalities in the perception of the senses—as a subsequent extensive change in the feelings and the disposition. If the "agoraphobic" who is perfectly aware of his affliction returns home discouraged and depressed after every vain and renewed attempt to overcome his "dread" of crossing a square, a wide street or a bridge, where can we speak here—either before or after—of an "over-tension of the sensation-contrast" which could only consist in this case of an intensified joyous humour?

Nervousness and marriage.—No matter in which way we attempt to explain the essence of nervousness, we are bound to arrive from theoretical considerations as from practical observations to the conviction that the individuals so disastrously endowed by nature possess, according to the extent and

severity of this endowment, a more or less insufficient nervous-psychical equipment for the duties and objects of married life, or that they even lack completely under all circumstances the indispensable adjustability to it. If the peculiarities of the nervous-neurasthenic condition are often capable of causing serious disturbance in all the relations of the sexual life as such, in the domain of the "comparative erotology" (as *S. Jacobsohn* expresses himself), this applies to a particularly great extent to the tenderest, most intimate and, at the same time internally and externally firmest of all the intersexual attachments, namely the married state. And it is the nervous husband no less than the nervous wife, although different physiological and psychological influences are in each of them at work, that is unsuitable from the standpoint of marriage.

Common to and alike in both of them is first of all the absence of the already-mentioned adaptability which constitutes the preliminary condition and a fundamental requirement of marriage. They are both of them more or less incapable or unwilling to control themselves, to keep in check their morbid inclinations, disinclinations, their good and ill humours, each of them cannot or will not render to the emotions and feelings of the other that amount of regard, fond sympathy and consideration or even of just and proper appreciation which makes it possible for two different individuals who consider themselves entitled to the same privileges, to live harmoniously together. Such marriages can consist only of masters and slaves, oppressors and oppressed, of the dearly-bought and patiently-borne sacrifice of the one side or of the misery of both sides—at all events they are nothing but a caricature of conjugal intimacy, a grotesque copy of the reciprocal devotion of married life.

Those who know the passion-stories of such neurasthenic marriages, know that these sufferings often begin on the very day the marriage is consummated, and sometimes even long before that. The hyper-sensitive, weak-willed neurasthenic frequently finds it well-nigh impossible to make up his mind to get married, the subsequent determination to adhere to the decision taken or forced upon him in spite of constant doubts and fears—all this tends to make what should be the happiest days of one's

life a terrible and often unbearable episode. In my own practice I have often enough had to treat neurasthenics who only felt relieved of a great burden and, one might almost say, became men again, when they broke off the engagement to marry into which they had hastily entered, and given back to themselves and to their *fiancées* their previous "freedom." There is no doubt that a not insignificant number of broken-off engagements are due to the whims and fancies of neurasthenics who discover only after they have plighted their troth, that they have undertaken responsibilities the fulfilling of which is physically and psychically far beyond their powers, even if they do not moreover belong specially to the large sub-category of sexual "neurasthenics." Not infrequently this "solution" is preceded by a disconsolate hesitation hither and thither, lasting for years, because the individuals in question (the blame lies in most of these cases on the part of the man) have not the power of either fulfilling their promise or of summing up the courage to withdraw, demanded by the circumstances of the case, and torment themselves and their intended partners from a distance or during occasional interviews in a most exasperating manner, by speech and in writing. In those cases where this solution does not take place, where the marriage is after all consummated either in consequence of the vacillation of one of the parties or through the firmness of the other, or thanks to the persuasive powers of friends or for external reasons, etc., it generally turns out most unhappy, and, indeed, it cannot do otherwise. For the neurasthenic remains after his marriage what he had been previous to it—only in very exceptional cases can married life exert any considerable beneficial influence, such as hopeful optimists, among the medical men, too often dare to anticipate; this is at any rate the case in the more serious forms of nervousness and neurasthenia.

In the particularly severe cases which represent fortunately an extreme form of the disease, the matter may end differently and namely in a far harsher manner. We read and hear sometimes of suicides committed by prospective husbands—belonging as a rule to the upper classes—on their wedding-day, figuratively and even literally "on the threshold of their bridal chamber."

Such apparently quite unintelligible acts are as a rule explained away by the conventional and convenient "attack of sudden mental aberration" (perhaps, on account of the eagerly and violently anticipated married bliss?) which induced the unhappy man to lay hand on himself. Those medical men who have stood near such cases know, however, that they refer almost always to highly-strung neurasthenics who cannot think of another way of escaping from their unavoidable feelings of terror, their repentance, their self-reproaches and severe anguish, and who prefer the peaceful rest of the grave to the, to them, problematic "joys" of the bridal and conjugal bed. It is probable, though, as far as one can judge, that sexual motives play nearly always a part in these cases, such as for instance a fear of impotence, here and there also (supposed and real) homosexuality, so that we find herein the transition to the particularly frequent, and in their conjugal consequences especially tragic, forms of the typical "sexual neurasthenia."

Sexual neurasthenia.—The object, or at least the physical essence of marriage is in sexual neurasthenia far more interfered with than it is generally the case in the other localised (special) forms of neurasthenia, or in its universal manifestation. This applies particularly to the sexual neurasthenia of the husband, in whom the symptom of the neurasthenic weakness of the virility or "impotence" prevails in the great majority of cases as the one which predominates over, and determines, the whole clinical picture, whilst the other local symptoms, the disturbances in the genital sensibility and in the motor-secretory activity, the morbid emissions and erections, spermatorrhœa and prostaticorrhœa, etc., recede considerably in constancy and importance as compared to this principal symptom.

There is hardly one among the large number of sexual neurasthenics who does not feel altered with regard to his sexual virility, and namely as a rule weaker, and the majority of them are, perhaps, influenced principally by just these sensations and the fears associated with them, to seek medical advice. On closer examination, however, this supposed weakness of the virility reveals itself frequently as a morbid alteration in the sexual desire, in the sexual libido, inasmuch as the latter is de-

ficient, absent or abnormal in a qualitative sense, directed into "perverse" channels. These radically different conditions of the altered libido and of the weakness of the virility are nevertheless, as is well known, often mistaken for each other, not only by the lay public but also by medical men, whereas according to their nosological value, and also from the therapeutic standpoint, they ought to be kept strictly apart. However, the importance of the absent or suspended libido (in the husband) is from the point of view of marriage by no means to be underrated.

The genesis of these anomalies can be deduced without any difficulty from the conception of the sexual neurasthenia itself, as that of a form of neurasthenia with a predominant, or for the time being exclusively prominent, genital manifestation, or exhibiting, in other words, symptoms of an "excitable weakness," of an excessive irritability and exhaustiveness in the region of the genital nervous apparatus. The psychical (psycho-sexual) disturbances and alterations connected herewith manifest themselves chiefly in anomalies of the sexual sensation which, corresponding to the general trait of neurasthenic disorders, appear to the consciousness as feelings of fatigue and pain with a predominating character of disinclination. The threshold of irritation in the sphere of the sexual sensation, too, seems depressed, so that relatively weak excitations are succeeded here also by a comparatively strong, full and persistent reaction, in which the negative feelings, disinclination and pain, appear predominately. Among the number of these psycho-sexual hyperæsthesias and dysæsthesias belongs also a disinclination for natural sexual intercourse, an increase in this disinclination amounting to psychical pain, its complication with feelings of anxiety and the phobias of neurasthenia proper. If these elements penetrate further into the imaginative life and take root there, the normal sexual sensations become weaker and associated in their course with constantly increasing inhibitions, there develops a sexual disinclination and

frigidity up to perfect disappearance of the ordinary sexual impulses, whilst in many cases there pour at the same time by way of ill-regulated associations, new or hitherto excluded and repressed ideas into the circle of the sexual imaginative life, filling the latter in a morbidly perverse manner with manifold pictures and stimulations arising from an unbridled activity of the phantasy. Herein lie very often the strongest incitations and impulses to onanism, to automasturbatory gratification, which neurasthenics frequently indulge in in preference to ordinary sexual intercourse, not only before the time of the regulated sexual life, but along with and after it, during married life, and at all ages, because it is not necessarily connected with any feelings of disinclination or anxiety such as are immediately associated with ordinary intercourse, and also because the incessantly working phantasy is constantly imagining new and not yet worn-out pleasurable excitements, or such which have not yet become repulsive.

To the same extent, however, and for the same reasons the desire also arises for the various forms of abnormal exercise of sexual intercourse—within and without the married state—because the latter not yet influenced by the tormenting feelings of disinclination and anxiety, hover before the phantasy as desirable inducements, including as they do the most extraordinary and severe psycho-sexual abnormalities and perversions (the relations between which and marriage are discussed in a separate chapter of this work).

Disturbances of virility in sexual neurasthenia.—As regards the special forms of the disturbances of the virility in neurasthenics, only very few cases present severe functional disorder of the mechanisms of erection and ejaculation in such a manner that the latter act differently and decreasingly either as to quantity or quality. This is for instance the case in the comparatively frequent anomaly of ejaculation (*ejaculatio præcox*) which is well-known and decried as an early stage of commencing impotence. If there is only a decline

in the sympathetic centre of the seminal discharge, erection can occur without subsequent ejaculation; if the erection-centre (which is according to recent researches also sympathetic) is weaker, ejaculation may take place without erection, that is, with the member flaccid and non-erected. If the two above-named centres are simultaneously functionally affected, the result is insufficient, flaccid and non-persistent erections—which disappear finally altogether—accompanied by scanty and finally entirely absent ejaculations.

All these forms which already denote a severer end-stage of pronounced exhaustion are usually preceded for some time by the above-mentioned condition of irritable weakness in the genital reflex-apparatus which manifests itself by premature ejaculation.—The number and extent of the potential disorders occurring in sexual neurasthenics are not, however, by any means confined to these manifestations; there are rather further alterations caused by the action of psychical factors which correspond to the conception of neurasthenia as a neuro-psychosis, and the influences of which, partly exciting, and partly regulating and inhibitory, are permanently transferred from the psychomotor sexual centres by centrifugal paths to the spinal and sympathetic reflex-centres of the genital apparatus. From the frequency and intensity of the psychical correlations pointed out above, we can explain how it is that we often have to deal in neurasthenic forms of impotence principally or even exclusively with the so-called “psychical” (psychogenic) impotence. The cause lies mainly in the inhibitory influence, which neurasthenic illusions and fears exercise upon the action of the erection-mechanism and upon the further accompanying reflexes of the intra-urethral discharge of the seminal glands, that is the “orgasm” and the ejaculation. In so far as the inhibitory representations are frequently direct results and issues of the disinclination-feelings which were associated with or accompanying immediately previous performances of sexual intercourse, they are as a rule phenomena of psychomotor inhibition on the basis of an excessive and abnormal psycho-sensory irritation, consequently genuine manifestations of “irritable weakness.”

But these residual inhibitory representations produced by

former disinclination-feelings can, according to the special mode of origin and the seriousness and frequency of preceding experiences, be either of a more general kind, or limited mainly to quite special, and often only temporary and passing, single moments connected with some single event. Where this is markedly the case, we can in this connection speak of so-called "relative" and "temporary" forms of impotence—which are at the same time always also of a psychogenic nature. This explains the fact why impotence is present only under certain conditions or in certain circumstances (for instance in the natural form of sexual intercourse, but not in unnatural modes of sexual gratification) or with respect to certain persons (for instance, as it is frequently the case, in attempted intercourse with the wife, but not with a mistress)—("relative impotence"); also, why the *potentia cœundi* fails at times entirely, whilst at others there does not appear to be any or but very little diminution in that direction ("temporary impotence"). In "relative" impotence, therefore, the disinclination-feelings and the inhibitory representations arising from them are not associated uniformly with all kinds and forms of sexual gratification, but only with certain definite ones, or with respect to certain individuals against whom aversion or antipathy has arisen from satiety or some other cause. In the "temporary" form the inhibitory influences on the sexual impulses are only transient and periodical, at any rate not always manifest with an equal force. Relative and temporary impotence correspond therefore frequently to early stages which in the further course and development of the inhibitory influences may lead gradually to absolute and permanent psychical impotence. But that those apparently milder forms of diminished impotency which are in themselves not unamenable to improvement and cure, may also assume in the married state particularly a very considerable importance and give rise to lasting disturbances in the happiness of the married life, hardly needs any elucidation.

Sexual neurasthenia in woman.—In the sexual neurasthenia of the female sex, the phenomenon analogous to the diminished or absent libido in the man, is the diminution in the sexual sensation altogether, which manifests itself not only

by the absence of the desire, the libido, which, as it is, is generally weaker and tardier in development than in the male sex, but also and principally by an absence of the pleasurable feeling during coitus, by the failure of the "orgasm." These conditions are generally designated as frigidity, anaphrodisia, sexual anæsthesia, also as "dyspareunia" (*Kisch*); in reality, however, they constitute genetically and symptomatically widely separate anomalies, and only those can be included in the domain of sexual neurasthenia in which there is a question, from the beginning, of irritable weakness in the region of the genital nervous apparatus and of inhibitions proceeding mainly from psychical causes (neurotic anxiety of a purely sexual nature). In this connection painful local affections (chronic atrophic parametritis, according to *Freund*) particularly, as well as previous violent pain or disinclination associated with sexual functions (dysmenorrhœa, masturbation, defloration-pain) can by their reappearance and combination with representations referring to sexual intercourse act disastrously as provoking and anxiety-producing factors. A very characteristic illustration of this condition is furnished by the picture of "vaginismus" which is by no means rare in young married women, and in which a morbid hyperæsthesia of the introitus vaginæ exists or is developed after the defloration and after awkward and impetuous first attempts at coitus, and is associated with reflex spasms in the muscles constricting the vaginal entrance and the upper portion of the vaginal canal (constrictor cunni, transversi, perinæi, and levator ani) rendering thereby successful cohabitation impossible. In the further course there appear not infrequently severe nervous general symptoms with such an extreme feeling of terror and such a pronounced aversion against every renewed attempt at conjugal approach that the latter must finally be discontinued altogether, defeating thus not only the physical object of marriage but causing in many instances the dissolution of the conjugal ties. On the other hand, it is happily often possible by an opportune interference and by discreet and tactful treatment, partly of a local nature and partly directed towards the general nervous condition, to obtain in these cases a removal of the obstacles to cohabitation and conception.

There are naturally other factors as well which produce in woman a state of absent pleasurable feeling (anaphrodisia) or a sort of torpor in sexual respects. There is, like the psychogenic impotence in man, a sort of psycho-sexual anæsthesia in woman, which arises by no means always on the strength of primary local diseases but rather often on a neurasthenic, and just as often on an hysterical, or on a constitutional and neuropathic basis consisting of these two; the border-line between neurasthenia and hysteria is in woman generally far less sharply defined than in man and frequently in a one-sided manner in favour of hysteria. In woman, too, there are conditions of psycho-sexual hyperæsthesia and anæsthesia which may be designated as "relative" and "temporary" from the analogy of the corresponding forms of male impotence; thus, for instance, if a woman experiences pleasure and orgasm from intercourse with her lover but not with her husband, or when she finds delight in certain abnormal (masturbatory, sadistic, etc.) acts of sexual gratification, or only at certain definite times (during the menstruation-period). Those cases are naturally the worst in which diminished virility, premature ejaculation or coolness on the part of the husband is accompanied by sexual hyperæsthesia or anæsthesia, by sluggish or absent orgasm in the wife, so that the latter remains ungratified in every way; from such combinations there may result under certain circumstances the most serious discords and conjugal calamities of the severest and most disastrous kind.

Attitude of the physician.—What should be, from the experience we possess, the attitude of the doctor in regard to the contraction of marriages by nervous and neurasthenic individuals, as well as in the presence of such individuals already married, or, if necessary, on the question of their separation?

It is clear that it is just as impossible here to lay down general rules of conduct as it is in other illnesses; every individual case must be considered and judged on its own merits. Nervousness and neurasthenia can in themselves constitute elements favouring and favourable to marriage, just as they may at other times render it imperative for the medical man to oppose the whole weight of his authority against the contemplated step.

And then it is as a rule not very material whether we have to deal with congenital and inherited constitutional nervous debility ("neurasthenia") or with "nervousness" which has been acquired sooner or later. Apart from the general problematic character inherent in this distinction, daily experience shows that those forms of functional neuroses arising after accidents which can comparatively with certainty be described as having been "acquired" late ("accidental nervous diseases" in the shape of post-traumatic neurasthenia and hypochondria, etc.), are just those which as a rule distinguish themselves unfavourably by severity and obstinacy and a generally unsatisfactory course of the disease. The medical opinion does not therefore depend, so much as it often seems to be assumed, from the presence or absence of a congenital or possibly inherited family-predisposition, etc., but rather from the degree, extent and severity of the disease, from individual factors such as temperament, character, occupation and social position, and often, of course, also from the pecuniary means, the willingness and the patience to undergo a suitable mode of life and a rational course of treatment. This applies in a special measure to the sexual form of neurasthenia, particularly in man (as in woman this form of neurasthenia is before and outside the married state only exceptionally recognised and treated accordingly). In such cases, and where there is a tendency to neurasthenia at all, even some doctors still adhere to the erroneous and not infrequently disastrous view that marriage, in fact as soon as possible, is to a certain extent to be recommended warmly as a prophylactic measure. This is particularly the case as regards habitual masturbators who, it is well-known, furnish a large contingent of the sexual neurasthenics. Such a conception and recommendation of marriage as a protective and preservative measure in neurasthenics, and especially in sexual neurasthenics, I cannot, on the strength of an experience which as I have reason to believe is exceptionally wide in this field, accept at all. We know for a fact that marriage does not even protect against onanism (this applies also to sexually neurasthenic women); it does not cause the disappearance of an existing inclination to onanistic self-gratification—especially to "psychical" onanism—if this inclination is

considerable at all and has existed for some time;—or else this disappearance is only temporary, because individuals thus inclined soon exhaust the pleasures of married life and find them monotonous, whilst the delights of the phantasy assume constantly changing forms and diversities which promise no end of variety; it is not therefore likely that such people can be deterred in any way by the church or the registrar from seeking new manipulations in the form of illegitimate sexual intercourse. Besides, a large number of neurasthenically predisposed individuals lack, as we have seen, the psychical accommodativeness, the faculty to devote themselves to some other personality or at any rate that degree of considerateness and endurance which constitutes the indispensable condition of an harmonious or even peaceful consummation of the conjugal partnership. It is only after a minute inquiry into the conditions and character of both parties that marriage ought therefore to be permitted to obviously neurasthenic persons, but under no circumstances must matrimony as such be praised and encouraged as an effective remedy.

But where, as it frequently happens, such marriages are concluded nevertheless, they will during their course often present to the keenly observing doctor who possesses the confidence of his patients, opportunities which will justify or even necessitate his interference as adviser and succourer. Sometimes he will come across clumsy husbands or inexperienced young wives—it must not be forgotten, though, that there are also inexperienced husbands, and these are almost the worst!—and it will be his duty to instruct them on the sexual-hygienic conditions, possibly even on the technique and the mode of performance of sexual intercourse, and to impart to them the necessary information applying to their individual cases. Sometimes he will have to offer cheering and encouraging suggestions, at other times to calm and pacify one or the other of the married partners, now and again to recommend mutual tolerance and considerateness and to act generally as a reconciler and peace-maker. Regarded as a neutral person and almost as a creature without sex, the doctor cannot escape playing in modern marriages the rôle of a father-confessor of former times—as *Tolstoi* reproaches him in

the "Kreuzer Sonata" rather coarsely and unjustly! He is hardly in a position to extricate himself altogether from the responsibilities arising in this connection; but, on the other hand, he needs a great deal of tact and cautiousness so as not to incur any blame, and particularly must he be careful in the case of jealously disposed husbands not to give them cause to suspect that he is carrying on an intrigue with the wife—a suspicion which can easily take root and lead to most serious results, as it has frequently been known to happen in paranoics whose jealous mental fabrications may develop into a regular jealous mania. Finally, the doctor can scarcely refuse his assistance as far as his position permits or compels him, in obtaining where such a neurasthenic marriage has through the fault of one or both of the partners become irreparably shattered, the proper legal dissolution, in which case he must say to himself that he is doing a good and useful deed, and that an "end with terror" is here also better than "terror without an end."

3. *Hysteria.*

Essence and causes of hysteria.—In the second great neurosis which is eminently peculiar to the female sex, namely hysteria, we are both as to etiology and clinical pathology on still more debatable and uncertain ground than in neurasthenia. Since *Hippocrates* and *Soranus* down to *Charcot* and *Gilles de la Tourette*, down to *Breuer* and *Freud*, *Moebius* and *Binswanger*, many theories, or rather speculations, have been proposed as to the nature and causes of hysteria, but very little in the way of positive results has been achieved in this direction. The controversy is still raging undiminished—as shown among others by the discussion at last year's meeting of naturalists and medical men in Kassel—between gynæcologists and neurologists on the one hand, and hardly to a less extent between the specialists engaged in the various branches of medicine on the other. It is true that we do not hear any more to-day about the "uterus furens" of the ancients; but for all that, very many gynæcologists including some highly eminent men are

still under the spell of the old opinions, as are also a large number of general medical practitioners (not to mention the lay public) who are yet clinging to the belief that they can cure the "eternal woe" of woman from the one well-known "point." That this belief may in the course of time's changes become realised in the shape of a mobile and uncomplicated, or complicated and fixed retroflexion, of an atrophic chronic parametritis or disease of the appendages, etc., is perfectly immaterial.

But the view that influences may proceed from local diseases in the generative organs of woman, which give rise directly or reflexly to hysteria—this opinion which has to some extent prevailed since the oldest times almost with undisputed authority, but which has gradually lost in reputation on account of the growing scientific aspect of the matter—must finally disappear from the medical mind. It rested partly on insufficient and superficial, or wrongly interpreted, observations, and partly on a tenacious, but nevertheless mistaken, speculative conclusion, and is not without its dangers in influencing the attitude of the medical man or the psychiatric-forensic judgment, especially in severe cases of hysteria.

The origin of hysteria, like that of the other great neuroses (neurasthenia, epilepsy, etc.) depends, of absolute necessity, upon the presence of a neuro-psychical constitutional weakness or constitutional anomaly, which finds its organogenic basis as a rule in congenital (and partly inherited and degenerative) predisposition-faults of the central nervous system or of its functionally most important portions. More rarely it is acquired later in life through special lesions affecting the nervous system in a severe manner (for instance, in accident-neuroses). On the other hand, the outbreak of morbid processes belonging to this category is naturally often influenced also by the various organs and systems of organs in the body. In so far as the processes in the female generative sphere are concerned, this takes place more by way of the psychical representations of the organs belonging to this sphere, as it is here a question of irritation and condensation of imaginations, which give rise to morbid projections and manifestations at the periphery of the body, and which act therefore pathogenically in an intracentral

psychical way. There is consequently, just as there is a sexual neurasthenia, also a form of hysteria which can be distinguished and defined as sexual, inasmuch as the predominant pathogenic representations are derived mainly from the sexual sphere and they also manifest themselves accordingly by localised and fixed morbid phenomena in the region of the genital organs. Included in this class are probably very many (though by no means all) cases of hysteria which develop during the married state itself and in connection with the peculiar physical and psychical conditions of marriage.

Diagnosis of hysteria.—To a less extent even than in neurasthenia can a single symptom or group of symptoms, of which several different ones have been described, be regarded as “pathognomonic” in the clinical diagnosis of hysteria. Such a decisive value cannot be attributed to the absence of the conjunctival and pharyngeal reflexes, or to the—rather infrequent—increase in the knee-jerks, nor to the wrongly so-called “ovarism,” or to any other reputed “stigma.” All these and numerous other symptoms can be present or absent in hysterical individuals, which is frequently a question as to whether they have been suggested into them or not; there would probably, for instance, be no ovarism if it had not been dinned into the patients for the last thirty years, and as a matter of fact various observers have found “ovarism” in totally different places which have as a rule nothing to do with the ovaries. There are no immutable hysterical stigmata, there are only more or less frequently occurring manifestations in hysterical people (produced, as already stated, psychogenically) in the sensory, motor, vasomotor, secretory and trophic regions, and along with them also many complications, not easily overlooked, which rest on all sorts of genuine organic changes either accidentally or in consequence of a disturbance in the general nutrition.

Otherwise the diagnosis of hysteria depends in the first place entirely on a prolonged clinical observation, and on the thorough knowledge of the whole psychical and moral character of the patient. It must never be forgotten that hysteria is in reality a psychosis upon which the neurosis—if we wish to distinguish between these two terms—seems, so to speak, to be seated only.

The observation of the frequent, and often sudden change in the clinical aspect—in the place of which, however, there may be noticed an extraordinary persistence of one or more symptoms—the detachment of even the severest functional disorders from corresponding local alterations, the incoherence and apparent arbitrariness of the combination of symptoms, the observation, further, of intercurrent slight and severer attacks, and above all the study of the hysterical character with its morbid inclination to suggestion and auto-suggestion, its mutability, capriciousness and incalculableness, its phantastic deceptiveness, its impulsiveness and weakness of the will-power—all these signs are in a given case of greater utility in arriving at a diagnosis than dubious and ambiguous single symptoms. At any rate one must not be too liberal with the diagnosis of hysteria. Genuine and real hysteria is by far less frequent than the medical profession generally believes (it is often confused with nervousness and other neuroses of women); it rests as a rule, like genuine neurasthenia, upon predisposition-faults in the brain, and is often associated with an inclination to other neuroses and neuro-psychoses (neurasthenia, exophthalmic goitre, hemicrania, epilepsy, etc.) and even to organic diseases of the brain and spinal cord (sclerosis, progressive muscular atrophy, etc.).

An ingenious young medical psychologist¹ thinks he can characterise hysteria above everything else by the phenomenon of "docility" (*Lenksamkeit*)—which term he prefers to the horrid foreign word "suggestibility." But the translation is in itself not quite appropriate, and the deduction by analogy of the notion that the waveringness of "hysterical" crowds applies also to the nature of single hysterical persons, is unfortunately untenable. The husbands of hysterical women, as well as their doctors, would surely be very happy if they—the patients—were to distinguish themselves by a high degree of "docility"; but the husbands will hardly feel inclined to admit that their hysterical better halves, and the doctors that their more or less fair clients, are endowed just with this quality! As a rule the matter is

¹Willy Hellpach, *Nervosität und Kultur, ein Kulturproblem der Gegenwart*. Vol. VI. Berlin, 1902.

totally different, because hysterical women, though they are uncommonly "suggestible," are, however, from the beginning governed by an auto-suggestion which has become firm and rigid, and only in exceptional cases and under particularly favourable circumstances can they be ruled by an external suggestion which possesses yet any influence and is consequently capable of overcoming the power of the self-suggestion. If individual hysterical persons were as "docile" as the crowds that are influenced, say, by a popular orator, as for instance the irresolute "Roman populace" in Julius Cæsar by the speech of Mark Antony, the treatment of hysterical patients would be a real pleasure and not as it has always been regarded, and as it only too frequently is, a "crux medicorum."

Hysteria in relation to marriage.—In approaching somewhat more closely the relations between hysteria and the married state we are confronted rather sharply by two points of view, namely the influence which marriage itself possibly exercises upon the origin of hysteria or at any rate upon its becoming manifest, and the influence which an existing and highly developed hysteria visibly exerts upon the course of married life, upon the manifold phases of the conjugal drama.

Regarding the first point, all those injuries physical as well as psychical may come into question as causal or provoking factors, which are directly or indirectly associated with the married state. Of these the psychical ones are probably unequally more important. We know that *Breuer* and *Freud* have in their interesting monograph¹ on this subject attempted to explain the origin of hysteria in all individual cases by a definite psychical trauma which has not yet completed its reaction, which is supposed to be of a sexual nature and which has frequently exhibited its effectiveness already before marriage, through the first suggestion of matters sexual in a pure virginal mind producing a desire for resistance, a mixture of fearful anxiety and sensual excitement. Now there can be no doubt that marriage is a particularly fertile source of such psychosexual traumata, and this

¹Studien über Hysterie (Leipzig and Berlin), 1895. — I have been able to demonstrate beyond a doubt such an origin (or outbreak) in a few particularly severe cases of hysteria in children at about the age of puberty.

influence may commence to exert itself on the very first day, or better said, in the very first night. One cannot help agreeing with the two above-named authors when they express their astonishment—although somewhat coarsely—that the “first night does not act more often pathogenically, considering how often its object is unfortunately not erotic seduction but rape.” Various circumstances come here into play; besides direct roughness and brutality which are after all comparatively rare, we come across physical and moral awkwardness or inexperience, the result of which is want of gentleness and tact on the part of the husband who does not understand, or who considers it superfluous, that the female person handed over to him must be gradually educated to a sensual feeling and joint-gratification. This inexperience or this want of tact and understanding which arise as a rule from a regrettable misjudgment of female feelings and sensitiveness, from a psychological helplessness in the presence of a woman, make themselves felt, of course, not only at the beginning of the married life but very often also subsequently in connection with its sexual relations, so that to a certain extent there is some truth in *Freud's* assertion, highly exaggerated though it be, that “the great majority of severe neuroses in women have their origin in the conjugal bed.” We can at any rate admit its justice only if we apply it not merely, like *Freud*, to the “psychical traumata” but also to the physical dangers immediately associated in numerous cases with sexual intercourse, such as painful hurts, injuries, infections and the secondary effects of all these conditions on the nervous system.

At all events, there remains as the principal and justified portion of *Freud's* views on this subject the circumstance that the psycho-sexual factor plays an extraordinarily important part in the production and provocation of hysterical processes, and that uncommon significance attaches from a prophylactic standpoint to a more or less adroitly and carefully conducted education of the female sex in sexual matters. For, as we shall soon see, a deficient or absent sexual sensation or one which is directed into abnormal channels, as it is often the case with hysterical people, can also endanger most seriously the happiness and harmony of married life.

Education of the young.—In this respect great mistakes are often committed in the education of young girls, by telling them either too much or too little at the wrong time or in the wrong place, and in a wrong non-discriminating manner. The beginning of puberty, the first, only slightly noticeable, indications of the awakening sensuality demand in growing girls even more so than in boys, far more serious attention than parents and educators are as a rule wont to devote to them. Sensuality as a sexual feeling is in normally constituted children quite dormant; it only separates itself more distinctly from the complex of loving and respectful feelings which the soul of the child experiences towards those to whom it stands in intimate relations, simultaneously with the development of the sexual organs themselves. Just at that time it is therefore very important in which manner the sexual life is awakened from its sleep and how the still half-child-like confined soul is enlightened both with regard to itself and with regard to a world of feelings which are new and unknown to it. A great deal of attention has recently been given at meetings and congresses to this subject of how the young should be informed on sexual matters, but unfortunately it cannot be said that the opinions expressed on those occasions have distinguished themselves by lucidity, or even that they were only to a certain extent clear. Scholastic authorities will in many cases have absolutely nothing to do with such instruction (and least of all in the case of girls); nor are fathers and mothers less opposed to it, either because they feel how incompetent they are to undertake such a duty or because they have an objection to robbing the innocent maiden's soul of its sweet simplicity—a fear which is in many cases quite superfluous. It must be admitted, though, that the task is by no means easy of execution, and at all events capable of being carried out individually only; but then one would think that one has a right to demand from parents and educators that they should be intimately acquainted with just this individuality of the children in their charge. There are youthful characters who can absolutely dispense with such teaching, who seem to know more than is good for them, and in whose cases a similar experience awaits the carefully-proceeding teacher as that which befell the methodical father "*Bieder-*

meier,"¹ who was trying to impart to his daughter the secrets of sexual life by means of the anthers and pistils of plants, and to whom the blushing maid whispers in reply: "Gewiss, papa! Es scheinen sich im ganzen, Auf gleiche Art wie ich's vom Menschen weiss, Die Blumen offenbar und Tiere fortzupflanzen." (Of course, papa! It seems, on the whole, that flowers and animals reproduce themselves in a similar way as I know it to be done by human beings.)

On the other hand, there are differently constituted natures whom one cannot handle too carefully and from whom it is necessary to keep as far as possible everything that might further the awakening sensuality, and namely not only at the time of the commencing maturity but also for a long time afterwards. For this reason greater attention than is generally done, ought to be paid to the books read by young people. But this should by no means be done in a one-sided manner, that is, not everything which might act as sexually "enlightening" and therefore, necessarily, according to a pre-conceived absurd notion, excitingly, must under all circumstances be absolutely condemned. Over-cautious parents and governesses have been known, under this pretext, to keep from their grown-up daughters or charges, even such literature as the Nibelungenlied and Gudrun, Don Carlos and Faust. On the contrary, it is the silly stuff which describes all the conditions of life in wrong and ridiculously exaggerated colours, and which forms the staple literature of the growing youth that must be discouraged by every possible means. It is by reading this trash that girls principally form an extravagant, senseless and unfounded opinion of men which they take along with them into their subsequent every-day life, and which gives rise to pseudo-ideal expectations that are often the cause of hasty and sad marriages as well as of disastrous disappointment in married life.

Influence of the husband.—Thus we always come back to the male partner; with a little variation we might say here: "*cherchez l'homme*." As a matter of fact, the husband is (often innocently) the cause of his wife's hysteria during mar-

¹"Aufklärung" in *Jugend*, 1903. No. 50.

ried life, or at least partly responsible for it. She may have married him without love, from selfish motives, out of pity, or "chosen" him for some reason or other; he may not be coming up to her ideal, she may have thought him different or seen him through a dream, and now, being disappointed, she may consider herself deceived, which perhaps she is in fact; he may not command her respect, may not understand her, may not do enough for her, may not look after her sufficiently, may become in the course of time quite indifferent about her, as she is, perhaps, about him—all this and much more like it may break out at the first opportunity and become the provoking cause of severe hysterical phenomena, of single attacks as of a permanent manifestation of hysteria. Physical causes may contribute their share and add to the indifference or dislike, so that both sides no longer derive anything from the conjugal act—at any rate not gratification—which however they find, perhaps, in illicit intercourse. The further consequences as regards the husband have already been mentioned in the preceding chapter; as to the hysterical wife, she often has recourse to seduction by "another" (which means a lover), in some cases to the adoption of masturbation and under modern conditions not infrequently to homosexual gratification, which after all is only reciprocal onanism. The hysterical wife is now "femme incomprise" and then "femme adultère;" and the unfaithful wife is often at the same time hysterical. For the hysterical wife not infrequently becomes unfaithful, not from erotomania, but in order to experience a new sensation, to excite and occupy her senses and her phantasy, to punish her husband, or she does it out of mere capriciousness, from absence of will-power and from all sorts of dark motives which fall into the region of the unconscious, but which are somehow connected with the psycho-sexual trauma.

Defective sexual sensation in woman.—But hysteria may have a calamitous effect upon the course and issue of a marriage from an almost contrary cause as well, namely if it is, as frequently happens, accompanied by a defective sexual sensation (sexual hyperæsthesia and anæsthesia, anaphrodisia, dyspareunia), or if the latter constitutes rather an important

symptom, a part-manifestation of the hysteria. It is here principally a question of the absence of the pleasurable feeling, of the orgasm, during cohabitation, whilst in some other cases the sensation, though apparently not entirely absent, comes on only in a very weak form and after some delay. The cause of this is a very variable one, and it may be of a local or general, physical or psychical nature. In so far as hysteria comes here into action, it may under circumstances amount to a diminution or extinction of the sensibility of the vaginal mucous membrane, judging from the analogy of the hysterical anæsthesia of other mucous membranes, of the palate and pharynx, nasal cavity, etc. But the trouble may also lie principally or exclusively in the psychical region and then run concurrently with the above-mentioned factors, with awkward, imperfect or perverse exercise of the sexual intercourse by the husband or indifference and dislike towards the latter.

Sexual anæsthesia in woman is in itself nothing rare; an eminent Russian practitioner, *Guttzeit*, goes so far as to assume (from his experiences obtained in Russia) that it occurs in no less than 40% of all the cases. This is probably too high a figure or at least applicable only to special conditions.¹ It must, however, be admitted, that even patients who have been married for many years and who can point to several products of the conjugal "joys" in the shape of a numerous family, frequently confess to their doctors that they have never experienced the slightest feeling of pleasure during coitus. This may be due partly to defective inclination, to the absence of development in the specifically erogenic zones (clitoris, introitus vaginæ, etc.) or to insufficient irritation of these zones by the manner employed in the exercise of the sexual act. As far as hysterical women are concerned, however, not much credence must always be attached to their statements respecting imperfect pleasurable sensation during coitus. They boast in this matter just as they do about all sorts of other possible peculiarities. They like to pose as victims, as martyrs of married life, and no less are they fond

¹See *Otto Adler*, *Die mangelhafte Geschlechtsempfindung des Weibes*. Vienna, 1904.

of deceiving the doctor, of misleading him, or if he does not let them do so, of timidly admiring his superior sagacity. Besides, the old controversy which Zeus and Hera brought before the tribunal of Tiresias as to whether the man or woman experiences the greater delight during coitus, is notoriously not as yet "finally" settled.

The sexual anæsthesia of the wife can, like the impotence of the husband, also become a source of conjugal strife and collapse, either because the husband tires of the wife's passivity which hurts his self-love and reacts finally paralytically on his desire and virility, or because this anæsthesia is, as is frequently the case, accompanied by sterility, of which it is looked upon as the cause, and condemned accordingly. The possibility of such a causal connection appears in fact in some cases as not altogether excluded, since—a circumstance pointed out by *Kisch*—a strikingly rapid reflux of the semen from the vagina is observed sometimes in dyspareunia, perhaps, because of the absence of the reflex contraction of the vaginal sphincter and of the organic vaginal musculature.

Medical attitude.—The physician is in the presence of these conditions not altogether powerless. He can often interfere here beneficially and helpfully by strengthening the sensibility through local remedies, by regulating in a suitable manner the sexual intercourse, by removing if possible other causes of the sterility, and by furthering and reviving the declining affection between husband and wife through recommending abstinence or a longer separation—a journey to some watering place, etc. For the rest, the "treatment" of an hysterical marriage must consist mainly in its "prophylaxis," respecting which a few valuable indications can, perhaps, be derived from the above observations. The fully developed severe forms of hysteria can in some rare cases be influenced by means of *Freud's* system of "complete reaction," by hypnotism or in any other way with anything like lasting success, only at the hand of experienced and confident psycho-therapists, and even by these solely under favourable circumstances. That gynæcological measures, pessaries, operations against retroflexion, massage, even castration, etc., can achieve in genuine hysteria more than transient

and illusory success, I am, judging from numerous personal observations, decidedly inclined to doubt.

Under these circumstances it almost appears strange that so many marriages of hysterical persons last until their natural end and are not dissolved long before that; but it would seem as if nature has happily endowed the generality of husbands of hysterical women by way of compensation with so much placidity and meekness, such self-deception, and above all such unmanly patience, that they appear as if predestined for their severe ordeal which they often endure so bravely as to call forth the wondering admiration of their sympathising friends and medical advisers. But such hysterical marriages can sometimes result in catastrophes of the worst kind. I only need recall the well-known case of Dr. P.'s wife, whose attempted murder of her husband (pre-arranged in an hysterically stupid manner) about 10 years ago, created an unparalleled sensation all over Berlin.¹ The poisoning of husband and children by hysterical women is by no means rare. Among other cases, I acted as medical expert in one, where an hysterical mother belonging to the better classes, in a moment of impulsive excitement, killed first her ten-year-old son with cocaine, and afterwards attempted unsuccessfully to take her own life by means of the same poison. That hysterical women are on the whole bad mothers, and that they do not know how to bring up their children, that they are in consequence of the changeableness and capriciousness of their nature capable of spoiling them by the stupidest over-kindness, or of ill-treating them most cruelly, is such a well-known fact that there is no need for dwelling upon it here. That the children of hysterical mothers should, in view of the hereditariness of the neuropathic predisposition and in view of the conditions among which they grow up, and of the consequently wrong education, frequently be subject to hysteria or other neuroses and neuropsychoses, is only what can reasonably be expected.

But for all that, it must finally be emphasized that we must

¹In another similarly unhappy hysterical marriage-tragedy which occurred in Berlin society circles, the recently announced suicide of Mrs. H. after a separation pronounced a long time ago, formed the sad conclusion of the drama.

not go too far with our well-meant prophylactic endeavours, but impose upon ourselves voluntarily a certain reserve, as matters often enough take a different course to that which we anticipated. It cannot be denied that there have been marriages of hysterical persons which have turned out favourable against all expectation, and which have proved to the medical warner an agreeable disappointment. The provoking cause of severe hysterical manifestations was in these cases, according to my experience, as a rule some sad family trouble, from which the persons concerned were in time extricated by marriage and placed under material circumstances favourable to their development.

4. *Epilepsy.*

Nature and causes.—In the third of the great neuroses and neuro-psychoses, epilepsy, we find ourselves upon more confined and separate ground and upon a scientifically more assured basis than in the two preceding ones. Although the pathogenetic theories and the experimental-pathological results closely associated with them, are still widely divergent—and although the controversy is still great on separate points in the clinical picture—there can nevertheless be hardly any difference of opinion on the fundamental view, according to which epilepsy is a highly chronic functional disease of the central nervous system resting upon a peculiar (epileptic) alteration in the whole brain, and which manifests itself especially by conditions of an abnormally increased irritability of the central apparatus of the cerebrum. There occur here in consequence of the accumulation and summation of the excitations acting upon these centres, provoking processes, in the form of brusque periodical unloadings which represent, as “epileptic attacks,” the principal phenomena of the clinical picture or the pathological manifestations of the disease. We distinguish among them most variably pronounced single forms, that of the typical (classical) epileptic attack in the narrower sense (grand mal), that of the milder attacks of epileptic vertigo (“absences,” petit mal), that of the atypical attacks and of the so-called epileptoid

conditions, in which class we include especially the semi-unconscious state, the post-epileptic insanity and the psychical-epileptic equivalents. It is therefore not correct to simply identify cortical convulsions with epilepsy, as it is yet often done. Although the cerebral cortex must certainly be regarded as the starting-point of the irritations, which provoke the epileptic attacks, it is, nevertheless, by no means the only point of origin of the—to a great extent infra-cortically occurring—manifestations, especially of the convulsions, and we have therefore and also for other reasons, to differentiate the so-called cortical (or Jacksonian) epilepsy as a symptom of very different cortical brain-affections, from genuine epilepsy, just as sharply as the vague phenomena of “epileptiform” conditions which were formerly also often confounded with it and which are observed in the course of various organic diseases of the brain (tumour, sclerosis, cerebral syphilis, paralytic dementia, etc.) or in consequence of chronic intoxications or auto-intoxications (alcoholism, plumbism, uræmia, etc.).

After excluding all these conditions of “symptomatic” epilepsy we arrive therefore at its limitation to the narrower clinical picture, to a chronic disease of the central nervous system which is characterized by the attacks and partly also by symptoms occurring in the intervals, and in which the most decisive factor appears from the etiological side to be its close relationship to the original constitutional neurophatic and psychopathic predisposition, with the nature of which, though, we are not at all familiar. If there are, in addition, in any given case, numerous other individual and accidental elements co-operating immediately in producing the epileptic change altogether or the single attacks, that predisposing neuro-psychopathic tendency is just the point which principally deserves the attention of the physician when considering the relationship between epilepsy and marriage, because the fact must be reckoned with on principle, that epilepsy is by no means a transient occasional affection, but a neuro-psychical constitutional anomaly which rests upon a congenital, often inherited degenerative inclination, which lasts as a rule through the whole life of the individual and is in this sense an “incurable” disease.

Influence of epilepsy on marriage.—There is hardly another disease of the nervous system, no matter how serious, which is so inimical, so obstructive and so calamitously destructive in respect to the physical and as a rule also the psychical relations between husband and wife, and consequently to the married state altogether, as epilepsy. The peculiar dread with which the lay public regards this disease particularly, and which found its expression in ancient times already in the supposition of a demoniac origin, and in the designation of the affliction as “*morbus sacer*,” constitutes amid the tenderest and most intimate of all vital relations a source of unconquerable, though ever so unjust, antipathy against the sufferer which is capable of dissolving and completely destroying the union just concluded, sometimes from the very commencement.

Those belonging to an older generation, who have in their school-days or adolescence devoured *Eugène Sue’s*, at that time highly famous, “*Mystères de Paris*,” will never efface from their recollection the terrible description of that first-night’s scene in which the young husband is seized with an epileptic attack, and the solitary existence which the newly-wedded wife was henceforth doomed to lead. The narrative is hardly overdrawn. I know quite a number of cases—though mostly of an opposite kind, that is, where the wife and not the husband was the party affected—in which the accumulated and repressed sexual excitement of the pre-nuptial period discharged itself either on the wedding-day or during the wedding-night, or even during the subsequent days while on the honeymoon-trip, in the form of violent and severe epileptic attacks, which being absolutely unsuspected and unforeseen by the other partner, caused to the latter such an unconquerable fear and shock, that they were necessarily at once followed by an immediate inward, in some cases also by an outward, dissolution of the marriage. Where the outward signs of the matrimonial union were preserved so as to avoid talk and scandal, there was as a rule from that moment no vestige left of an inner and genuine affection; there was even no show of compassion, and the former love gave way to aversion and hatred—often enough of a reciprocal kind, because the one side could not forgive the “deception” practised

upon him or her through the concealment of the dread disease, and the other, misunderstanding the severity of the illness or from a comprehensible selfishness unaware that any blame attached to him or her, would naturally complain more and more bitterly of the indifference and unjust behaviour of his or her partner.

I must, however, observe in this connection that according to my experience, women are generally more indulgent towards their epileptic husbands than is the case the other way about, and that they know better how to adapt themselves to the circumstances demanded by the occasion. As a matter of fact I know of a few very happy marriages where the husbands are epileptic—though they are rare—but on the other hand I cannot remember a single one where the wife is affected with epilepsy. This is on the whole probably due to the circumstance that in women the impulse to help and to relieve which springs from the depth of their motherly sympathy and which finds its greatest opportunity round a sick-bed, and also the strong development of the sense of compassion, enable them to overcome even the repugnance against the terrible manifestations of epilepsy with greater ease than can be done by the generality of men on account of their natural disposition. Besides, a man is far more likely to be deterred from sexual intercourse with a wife suffering from epileptic attacks than vice versâ women with epileptic husbands (perhaps, because the sexual orgasm in man when at its highest point, succeeded, as it is, by a state of exhaustion, has a distant resemblance with an epileptic seizure, which appears therefore to a certain extent as a pathological aggravation of a physiological process, as to whose normal intensity and extensity the sexually ignorant wife possesses no information). Men are, as we must readily admit, harder and more impatient, they endure the evils of ordinary life with greater difficulty and less forbearance, and they find it consequently especially unbearable if unpleasantnesses and injuries, not only of a domestic character, but also of a social nature, and affecting their material position, arise to them because of the epileptic disease of the wife. This is particularly the case where a minute observation of the usual social formulæ is part of the daily routine, for instance among

the higher classes whose intercourse is limited to a certain caste-like exclusiveness, officers, high officials, etc.

The epileptic semi-unconsciousness and the psychical-epileptic equivalents present in this respect the gravest outlook and the greatest dangers. It is well-known that these conditions can also produce directly, owing to the fears, illusions and frenzies associated with them, violent discharges either in the form of attempts at suicide or at murder against the other partner, or in that of other criminal acts. We shall have to deal more minutely with this subject in the chapter on psychoses in relation to marriage. But even where there is no question of such acts of violence, every social intercourse is rendered very unpleasant, or even impossible, partly by the peculiarity of the so-called epileptic character with its irritability, impetuosity and sudden outbursts of violence and rage, its erotic paroxysms which are, particularly in women, even more dangerous, and partly by the constantly present dread of the occurrence of convulsive attacks and psychical equivalents.

Only recently I attended an officer's wife who was suffering from epileptic semi-unconsciousness and to whose husband the alternative was necessarily given by the commander of his regiment, either to resign his commission or to separate from his wife, because the latter had not only in consequence of her peculiar character seriously insulted several ladies of the circle, but had also at a party given at her residence aroused the greatest indignation of those present by her unmentionable conduct. In another case referring to the wife of a civil engineer the patient had in her semi-unconscious state several times spent the whole night away from home wandering about and also giving way in a most unrestrained manner to her erotic impulses; divorce became here absolutely unavoidable.

As a counter-part I wish to mention the marriage of a medical man—since deceased—which passed off without any trouble, although he suffered from rare—but on this account more violent—attacks of epileptic semi-unconsciousness, during which he used to fall into such a rage as to take hold of an axe or a knife and threaten everybody, so that the non-occurrence of calamitous catastrophes may be regarded almost as a miracle.

All this was carefully concealed, and the sufferer himself was kept in total ignorance. Woman's love exhibits under such circumstances far greater strength and resistance than that of the man.

Influence of pregnancy and childbirth.—If we have therefore to recognise that epilepsy of either the husband or the wife is capable of causing most serious and severe disturbances to the inner as well as the outer preservation of the conjugal unity, we must not by any means underrate the enormity of the dangers which, as we know from experience, arise in a physical respect in connection with the natural results of marriage, pregnancy and parturition, in epileptic women, or with the constitution of eventual descendants of epileptic fathers and mothers.

Whereas it was formerly believed by many optimists that the processes of pregnancy and parturition have a rather favourable influence upon an existing epilepsy in women, or that they do not at all events cause an aggravation of the epileptic manifestations, this view has recently come to be regarded with some doubt, and, indeed, it can hardly be upheld, at least in this general form. Not only do the ordinary attacks become more frequent during pregnancy, but often severe symptoms, absent at other times, are also observed, especially some which belong to epileptic insanity, various pathological conditions of the consciousness with deficient memory, delirium, complete bewilderment, etc. It is further to be remembered that attacks have several times been reported as having come on shortly before or during the labour-act, after the rupture of the membranes and in the first few days after the confinement. Finally, it seems from communications published that there are isolated cases in which epileptic attacks occur during pregnancy only, or only during the puerperal state following it (*Fellner*); but then again, pregnancy may cause in epilepsies, with principally a menstrual type of the attacks, a diminution or even a temporary cessation of the latter. At all events the dangerousness of an existing epilepsy to the course of pregnancy results also from the circumstance that in association with frequent attacks miscarriage, premature labour and death of the child have been

observed. In some cases, indeed, though only very rarely, the interruption of the pregnancy or the induction of artificial premature labour might even appear medically indicated.¹

The offspring of epileptics.—Of still greater significance are the injurious effects of epilepsy in the generators (and in the ancestors generally) upon their offspring, a subject which constitutes in itself an important chapter in the doctrine of "deterioration," or of psycho-physical degeneration. There can be here on the one hand a direct inheritance of the epilepsy itself, and on the other a transference of the neuro-psychopathic predisposition. The latter forms then the starting-point or, as our bacteriological contemporaries prefer to call it, the nourishing soil for the development of more or less severe neuroses or psychoses, which manifest themselves in multitudinous ways. As regards the direct conveyance of epilepsy from parents to children, this is according to the statistical results which we possess, of rather less frequent occurrence. *Leuret* found among 106 epileptics direct heredity in 11 cases, and other authors, including myself, have also arrived with regard to the direct transmission from ascendants to a percentage not materially greater. It is, by-the-by, doubtful whether the influence of epileptic mothers or that of epileptic fathers prevails in this sense in the offspring (according to *Reynolds* the influence of the father predominates, according to *Esquirol* that of the mother). A far greater percentage, however, is the result if all sorts of convulsions in descendants of epileptics are taken into account as many of these children die at an early age when real epilepsy has not yet developed or been ascertained, but who have suffered from infantile convulsions. According to *Féré* more than half of all the children springing from epileptic parents are subject to convulsions; according to *Bouchet* and *Cazeauvieille*, 37 from among 58 children of epileptic mothers died very young, and nearly all of them amid convulsions, while of the 21 who survived, 7 more were suffering from convulsions.—The frequent transmission in the form of a "predisposition," of a neuro-psychi-

¹According to *Larger* (l'hérédité en obstétrique, comptes rendus de la Société de biologie, Vol. 53, No. 39), abnormalities in the pregnancy and in the puerperium occur as a sign of heredity in the descendants of epileptics.

cal constitutional debility, becomes evident from the circumstance that among the children of epileptics the most various neuroses and psychoses appear uncommonly often. Moreover, epilepsy is not by any means rarely associated with other neuroses and neuro-psychoses, with neurasthenia and hysteria, hemicrania, exophthalmic goître, diabetes (insipidus and mellitus) with other convulsive manifestations (catalepsy, chorea), and with pronounced degenerative forms of insanity, severe hypochondria, *folie circulaire*, etc., etc.

Attitude of the medical man with regard to the marriage of epileptics.—There arises from all this the exceedingly grave question: What should be our attitude when consulted with respect to marriage by epileptic individuals or when approached in any given case by an epileptic for the medical consent to a contemplated matrimonial alliance?

One would, perhaps, imagine that this question cannot possibly arrive at all, and that there can hardly be any difference of opinion on the point that it is the duty of a medical man to do all that lies in his power to prevent the marriage of those who are known to suffer from epilepsy. But the matter is by no means so simple as that. Not only is an individual consideration of each single case an obviously necessary indication, but there are not a few laymen and even doctors now and then who incline on principle to the remarkable view, that the marriage of epileptics influences their disease favourably and that it can even achieve its cure! I have not been able to find out how this belief, or rather superstition, has originally arisen; what is absolutely certain is that it is utterly wrong and perverse and that it deserves the most decisive opposition and annihilation. I have witnessed some sad examples, among others the case of a young man who was sent to South Africa on account of his severe epilepsy, where he improved first in a very satisfactory manner. At the recommendation of an English physician, however, he married in order to achieve a perfect cure, and moreover, a Russian lady who was rather of delicate health. The result was that his condition became terribly worse, he was seized on an average by as many as 5 to 9 fits daily and nightly—sometimes even by 10 to

12—he developed a stammering speech, loss of memory, progressive stupidity amounting to complete mental decay, signs of paralysis and general marasmus. In this wretched state the patient, who was 27 years of age, returned to Europe, and every other method of treatment having been unsuccessful, a cortical incision was at my instigation performed, after which a lasting improvement took place.

There can be no possible doubt that sexual excitement such as is produced by courting and all the other stages of the marriage process, is, at all events in view of the condition of morbidly increased irritability of the central cerebral apparatus, which we assume to be one of the principal constituent parts of the “epileptic alteration,” bound to exercise a most injurious effect, directly furthering the occurrence of attacks, if only because it combines with the ordinary excitements of daily life thus adding materially to their influence. Were we to draw from this circumstance, as well as from the apprehended injuries to the descendants, the necessary conclusions, we should, of course, arrive at the result that not only must the contraction of marriages by epileptics be opposed by all possible means (among which we might, perhaps, have to agitate also for legal prohibitions based on social-hygienic considerations), but that epileptics must as far as possible be rendered asexual, or transformed into anerotic or anti-erotic creatures. But in point of fact, we must strictly differentiate here between the duties and objects of the social-hygienic prophylaxis and those of the individual-hygienic prophylaxis. With regard to the former, hardly anything has as yet been accomplished or seriously attempted in respect to marriage and the offspring from the standpoint of this branch of disease like from that of any other (I need only mention tuberculosis and syphilis) ; for there is apparently great hesitation in interfering preventively and defensively with the individual right of choosing for oneself in just this most intimate of all spheres of action. We seem to forget that we are already accustomed to many a legal act of interference with our personal liberty in the interest of the public welfare, as witness the modern legislation directed against the spread of epidemics, the partly compulsory isolation of sufferers from infectious diseases,

the homes for leprous individuals, etc. But not even the legislative body of the State of Michigan has hitherto ventured to put into practice the natural consequences of a broad-minded statesman-like view of the entire situation; in an addendum to the marriage-laws of that American State which was recently decided upon, the marriage of insane persons, idiots, and of individuals suffering yet from syphilis and gonorrhœa in an active stage, has been made a punishable offence and threatened with serious penalties, but no provision whatever has been made with regard to epileptics as such. Professor *Senator* has already in the Introduction to this work made some observations of a general character on the possibility of such legal protective and preventive measures, and with these one cannot help agreeing thoroughly from the point of view of the special domain discussed here.

Individual prophylaxis and treatment.—As regards individual prophylaxis, it must be admitted that not even by the most radical interdicts of marriage, not by the most impossible and most unreasonable prohibitions of all sexual intercourse by and with epileptics, could we hope to achieve our purpose; for the masturbatory gratification to which the individuals thus “disinherited” would undoubtedly have recourse, is on account of the cerebral over-irritation of epileptics (male and female) inseparably associated with it, far more dangerous than intersexual intercourse kept within reasonable limits can be under ordinary circumstances. It can often therefore only be a question here, as in so many other difficult problems, of having to choose the lesser and more bearable of two obvious evils. As far as at all possible, our object will naturally be, by hygienic recommendations and prohibitions, by a painfully accurate regulation of the mode of life and general conduct of young epileptics, to try and prevent the rise of sexual emotions and irritations or at all events to delay it and to keep it within bounds, an endeavour in which we are, by-the-bye, very much helped by the bromide treatment that is generally extended over several years. More important even than the medicinal is for the realisation of this object the dietetic-hygienic treatment, which includes numerous physical protective and hardening measures

—above all a rigorous exercise of absolute abstinence from alcohol and other injurious articles of diet. The greatest weight attaches to the pedagogic-psychical treatment which in those cases where the parental influence is insufficient or absent, ought to be permanently undertaken by doctor and tutor—combined preferably in the same person. Unfortunately circumstances rarely permit this to be done. But that a great deal can be accomplished in this way, that epileptics can be transformed into proper human beings and rescued from their passionate moods and dangerous sexual impulses, that they can be taught self-discipline, of this we have several instances where surprising and impressingly convincing results were obtained under uniformly favourable conditions.

Finally we must not altogether forget that it is possible for epilepsy to become cured, rare though genuine and permanent cures are. It is naturally very difficult to prepare statistical tables of cured epilepsies, since this would require, if the results are to be reliable at all, a control and observation of all the single cases extending over decades. But that real permanent cures do occur under anything like favourable circumstances and in consequence of a systematic and well-calculated treatment, suitable to each individual case, is an absolute fact demonstrated by experience and free from every possible doubt. I know from my own practice among the better classes a fairly large number of cases respecting which I can state with the greatest possible certainty that they have been perfectly free from attacks for about 10 or 20 years, and where no justifiable apprehensions are excited by the most critical observation from the point of view of the character and mode of life, of the vocation and family interests. As to the offspring, the question naturally remains open yet whether we may regard the children of epileptics, whom we consider as cured before their marriage, sufficiently protected against the disease direct, or against the neuro-psychopathic predisposition. This is a point which is partly connected with the still undecided problem of the hereditary transmission of acquired peculiarities. We are therefore hardly justified in going so far with our nosological pessimism as to oppose absolutely the marriage of every individual who has at some period

of his or her life suffered from epilepsy and who comes to us for an expression of opinion.

But we must, nevertheless, proceed with great caution in every single case, and refuse our consent most decidedly where there do not appear to be any satisfactory guarantees of a complete cure and of a prosperous union from the somatic as well as the psychical side. That our advice, if it is of a negative character, will in the preponderating majority of cases not be followed, is unfortunately something which we may reasonably anticipate and which the experience of every-day life confirms in an unpleasant manner.

Eclampsia.—The subject of eclampsia which, though it is in its manifestations to a certain extent allied to epilepsy, is, nevertheless, purely a disease of pregnancy and primarily not of a nervous nature, but dependent on affections of internal organs and of the metabolism, has already been discussed in a previous article of this work. (See: "Diseases of the kidneys in relation to marriage.")

5. *Chorea (gravidarum).*

Chorea in pregnancy.—With the ordinary mild forms of "chorea minor" we have the less occasion to deal in these pages, as they generally constitute a disease of the infantile-youthful period of life, lying before the completed development of puberty, that is prior to about the 17th year. Neither would the occasionally occurring chorea of adults require any consideration in connection with our subject if it were not necessary briefly to discuss clinically and therapeutically the comparatively frequent incidence of chorea during pregnancy and the frequently severe and peculiar course of this "chorea gravidarum."

This pregnancy-neurosis described first by *Riedlin* (1696) and afterwards by *Unger* and *J. Frank*, does not as a rule occur before the 3d or 4th month, then more frequently in the 7th and 8th months of the pregnancy, and develops either gradually as in ordinary chorea, or in a fairly violent manner amid symptoms of

fever and immediate severe choreic manifestations. In the first case the chorea symptoms disappear as a rule before the confinement or shortly afterwards, and they present therefore (apart from the etiological connection of pregnancy) nothing very specific; it is rather the more acutely occurring cases which take an unfavourable and often a fatal course—under almost uninterrupted convulsions which grow more and more in violence (and which seem to approach sometimes more the character of eclamptic fits) and are accompanied by constant excitement, sleeplessness, delirium, mania-attacks, etc., death ensues either from exhaustion during coma or from asphyxia through the increasing respiratory and œsophageal troubles. It is, however, possible even for such cases to take a turn for the better if the delivery takes place in good time or prematurely (either spontaneously or with artificial assistance). Chorea attacks for the first time most frequently primiparæ, and more rarely for the first time multiparæ, but in the latter relapses occur not infrequently. It is probably influenced in its origin apart from the neuro-psychopathic predisposition underlying all forms of chorea, by special auto-intoxications peculiar to pregnancy as such, and also possibly by abnormal reflexes proceeding from the pregnant uterus about the production of which, however, we know nothing positive.

As regards the special dangers to mother and child associated with chorea gravidarum, they are by no means insignificant. The mortality of chorea generally which is estimated at only 6% jumps up in chorea gravidarum according to *Schrock* to 22%, according to *Burt* to 27.4%, and according to *Tarnier* to as much as 30% (*Fellner*). The dangers to the labour process itself are seen from *Schrock's* statistics dealing with 154 cases; out of these 154 women, delivery occurred at the proper time in 95; of these, 41 were cured—24 during and 21 after the labour—while 8 women died during labour. Spontaneous miscarriage occurred in 19 cases of which

9 ended fatally; spontaneous abortion¹ in 11 cases of which 2 ended fatally; artificial premature labour was instituted in 9 cases of which 3 died; artificial abortion also in 9 cases of which 1 died; 11 patients died before delivery. Labour *per se* seems to occasion a greater danger on account of the irritation produced by the labour-pains, artificial abortion offers therefore a better prognosis than artificial premature labour. In moderately serious cases, according to *Fellner*, the pregnancy should be interrupted during its first half; in severe cases there is no reason for operative interference during the last two months, since, as already stated, labour *per se* cannot be regarded as a curative factor and the risk to life is probably in the 8th month just as great as in the 10th. Only in desperate cases where the woman is quite emaciated, nutrition impaired, and possibly symptoms of mania present, the interruption of the pregnancy in these latter months may at all events form a subject for consideration, as the interference can under the circumstances no longer do any harm, but may, perhaps, do some good.

6. Tetany.

Tetany during pregnancy and lactation.—

We describe, notoriously, as "tetany" a spastic neurosis which is characterised by bilateral tonic spasms occurring paroxysmally and without loss of consciousness in certain groups of muscles (flexors) and by an extreme over-irritability of the peripheral motor nerves to electric and mechanical stimuli.

There would be no necessity to devote any space here to this usually incurable form of spasm which is eminently peculiar to children and adolescents, if pregnancy did not, like in chorea, act in a number of cases as a promoting and predisposing, per-

¹Translator's note: German writers often distinguish between abortion (*abortus*) and miscarriage (*Fehlgeburt*) using the former term for miscarriages occurring during the first 2 or 3 months of the pregnancy before the placenta is formed.

haps, also as a directly causative factor, and if it did not seem that the functions associated with the sexual life, especially lactation, exercise a remarkable influence upon the origin of tetany. In which way this influence acts, whether by reflex irritation of certain nerve-centres (situated in the grey matter of the spinal cord and of the medulla oblongata) or, which is at least very probable, through auto-intoxicating agencies immediately connected with the above-mentioned and other conditions, we are for the present unable to say with certainty. There is a certain amount of confirmation of the auto-intoxicating theory in the circumstance that preceding extirpations of goîtres seem to favour the supervention of tetany during pregnancy and the puerperium, a process somewhat analogous, apparently, to those which take place in bronchocelic diseases, especially in myxœdema, and which suggests an intoxication through the disappearance of the destructive influence exercised by the goître on certain pregnancy-toxins. At any rate, the individual predisposition plays here, like in chorea gravidarum, a prominent part, as we see in some cases tetany recur with every subsequent pregnancy. On the other hand, it is not quite possible to exclude with certainty the influence of endemic and epidemic factors—that is, of infectious and toxic agencies which come into play preferably at certain times and in certain places, but as to the nature of which we are as yet perfectly in the dark.

On the course of pregnancy tetany has apparently a less serious effect than chorea; according to observations hitherto recorded it seems that the disease appears as a rule after the completion of labour, and that it passes into the puerperal period in exceptional cases only. So far tetany has not rendered it necessary to interrupt the pregnancy prematurely, but it seems that the death of the child has frequently been observed here in the course of the pregnancy, like in eclampsia.—At all events there would appear to be every justification for prohibiting lactation on the part of women suffering from tetany.

7. *Exophthalmic Goître.***Nature and pathogenesis of the disease.—**

The importance of exophthalmic goître from the standpoint of the branch of medicine with which we are concerned here, lies on the one hand in the circumstance that we have in this affection to deal with a generally severe neurosis (and neuro-psychosis) which rests probably upon an auto-intoxicatory basis, and on the other, in the fact that this neurosis appears pre-eminently in the female sex, that it is frequently associated with disturbances in the female generative sphere and especially with menstruation-troubles, and that, like in the two diseases last treated, the processes of pregnancy as well as those of the puerperium and lactation, act here also etiologically as furthering and, perhaps, immediately causative factors in a by no means small number of cases.

It is well known that various theories have been suggested on the pathogenesis of this extraordinary disease, each of which has remained the predominating one for a certain period of time, only to be discarded in favour of some other, but without losing its adherents all at once, a thing which happens as a rule in dethronements of every kind. There is no doubt that for a number of years the thyreogenic theory advocated by *Moebius* in the form of an intoxication or rather auto-intoxication, has been the favourite one, and it must be admitted that it is more than any other in agreement with the clinical facts, although it also presents its difficulties and leaves certain important points of detail so far unanswered. We know that this hypothesis proceeds from the standpoint that exophthalmic goître is an intoxication connected with disease of the thyroid gland—the result of which disease is supposed to be either the formation on the part of the affected gland of a strongly poisonous substance which is introduced into the circulation by way of internal secretion, or the prevention of the detoxication of the organism which the thyroid secretion accomplishes under normal circumstances. It cannot be here merely a question of “hyperthyreoidismus” as it was originally believed, in contradistinction to the hypothy-

reoidismus which is to be assumed in myxœdema and in cachexia strumipriva, but, as I attempted to prove already ten years ago, of a morbidly altered function of the thyroid gland with respect to the constitution of the secretion and probably also with respect to a change in the method of distribution of this abnormally constituted secretion—in other words of a “parathy-reoidismus.”

For all that, we are still very far removed from a satisfactory explanation of the most important single symptoms which characterise the typical complex of exophthalmic goître, and particularly of the cardio-vascular manifestations that form the principal central point. For between the frequent bronchoceles with their signs of “goître-heart” and the far more peculiar and extensive clinical picture of Graves’ disease there exist, as *Kraus* especially has shown, no very great analogies¹ and from a therapeutical point of view, too, it is easier to find contradictory than similar conditions between them. Besides, experiments have proved that for the pathogenesis of the altered functions of the thyroid gland as well as for the cardio-vascular symptoms, the supposition of an intermediary action of certain nerve-tracts appears to be indispensable, in which respect the researches of *E. Cyon* have established that the accelerating fibres contained in the sympathetic on the one side and the regulating fibres running in the vagus and in the nervus depressor on the other, come specially into consideration. The “thyreogenic” theory requires therefore presumably in this connection a further neurogenic addition.

Relations between Graves’ disease and the married state.—The relations between Graves’ disease and marriage are considerably more multifarious than in the two affections dealt with last in which there occurs in the main nothing more than a certain unfavourable influence upon pregnancy and the puerperium. With regard to exophthalmic goître on the other hand, it is important to remember that it is a disease associated in the widest sense with a congenital and often inherited, severe degenerative predisposition (neuro-psycho-

¹*Kraus*, Über das Kropfherz. (Wiener Klin. Woch., 1899. No. 15.)

pathic constitutional anomaly), that it attacks preferably the female sex and young people and is accompanied not only by physical weakness but at the same time also by serious nervous-psychical symptoms; that it is amenable to successful treatment to a limited extent only and that it often lasts through the whole life of the individual. It is further necessary to point out that the processes connected with the female sexual life, namely pregnancy, puerperium and lactation, exert in many cases a considerable, as a rule unfavourable, influence upon the origin and development of exophthalmic goître, inasmuch as the outbreak of the illness is either actually caused by these processes directly, or an already existing affection is aggravated by them—and by pregnancy especially—in an alarming manner. On the other hand it must be admitted that cases are known where immediately after the natural (normal or artificially assisted) conclusion of the pregnancy a remission or even disappearance of the exophthalmic goître symptoms has been observed. How this influence of pregnancy and of the puerperium makes itself felt, whether through the intermediary of the thyroid gland, which is obviously closely associated with the sexual processes, or through direct auto-intoxicating or reflex actions (from comparison with pregnancy-chorea and pregnancy-tetany) cannot at the present time be answered with certainty. But that such an influence does take place in many cases, may be regarded as empirically established—as may also the fact of a direct transmission of the disease to the offspring, and indeed, in consonance with the described character of the disease, as a rule from the maternal side to female, and rarely to male, descendants. A further fact is also that Graves' disease is frequently combined with other neuroses and neuro-psychoses (hysteria, neurasthenia, hemicrania, epilepsy, etc.) with severe vaso-motor-trophic disturbances and auto-intoxications (myxœdema, sclerodermia, Addison's disease, diabetes insipidus and mellitus) and with real functional psychoses (melancholia, mania). That not only insanity and neuroses, but heart disease and constitutional affections, such as tuberculosis, cancer, diabetes, etc., also occur remarkably often in the families of exophthalmic goître patients, is proved by numerous single observations, as is also the fre-

quent occurrence of several (and many) cases of Graves' disease in one family.¹)

If all these circumstances are taken into account, and finally also the fact that the different symptoms of Graves' disease, the goître, but especially the exophthalmos where it is very marked, are capable of causing direct physical aversion and thus of frustrating the objects of marriage, it is impossible to resist the conviction that an undoubted case of Graves' disease constitutes on the whole a fairly considerable contra-indication against the contraction of marriage, and that it must at least from a medical point of view be regarded in that light. It stands to reason that here also, like in epilepsy, every single case must be considered objectively for itself, and decided on the one hand according to the degree, severity and duration of the existing disease, and on the other, especially according to the etiological conditions underlying it, the factors of heredity and predisposition, or the more occasional and accidental causes giving rise to the disease, etc., etc. Exophthalmic goître commencing in the course of married life through the influence of the above-mentioned causes, or the cases which progress and become worse, offer to the medical practitioner great and important opportunities, as where the treatment is judiciously carried out and the outward conditions are not too unfavourable, the chances are in the majority of cases by no means bad, and the therapeutical problem by no means beyond solution.

8. *Polyneuritis.*

Polyneuritis in pregnancy and in the puerperium.—We are here concerned principally with certain severe forms of polyneuritis, peculiar to the female sex and etilogically connected with pregnancy and the puerperium. It was *Moebius* who described first (in 1887) a few cases of "puerperal" neuritis, mostly localised typically in the region of certain nerves of the arm (median, ulnar); subsequently this

¹See the interesting compilation by *Buschaw* (*Die Basedow'sche Krankheit*, Leipzig and Vienna, 1894, pp. 81-85).

term has received a considerable enlargement inasmuch as diffuse polyneuritic forms with psychical manifestations (*Korsakoff*) and even cases of a general character in the shape of the ascending acute so-called *Landry's* paralysis, for instance the case observed by me¹ were included in this collective designation. On the other hand it was pointed out by myself and afterwards also by others that the beginnings of this "puerperal" neuritis and polyneuritis often probably date as far back as the last stages of the pregnancy, and that the diseases in question ought more correctly to be described as "neuritis of pregnancy." There is besides in some of these cases a temporal and, perhaps, also a causal connection ascertainable with a previous hyperemesis gravidarum—a morbid phenomenon whose immediate origin is, in spite of all the careful researches recently instituted on the subject, still insufficiently cleared up, but in connection with which the supposition of a toxic, or rather auto-toxic, causation—similar to that in eclampsia and in the other pregnancy-diseases discussed above—gradually seems to be gaining a considerable foundation. The thoroughness with which this view is advocated in the monograph of *Dirmoser*² deserves to be specially mentioned. The opinion that we have here to deal with an auto-intoxication emanating from the gastro-intestinal tract and brought about, perhaps, specially by certain intestinal toxins, is in the main identical with the views which I expressed (*loc. cit.*) some time ago on the pathogenesis of the neuritis of pregnancy and the puerperium, and to which I still think I may adhere. On the other hand I cannot ignore that in the etiology of hyperemesis there exists probably along with the provocative autotoxic injuries as a rule also a preliminary constitutional neuropathic (hysterical) predisposition, and that the reflex action (from the sensory endings of the sympathetic in the internal organs) accused by others as the principal factor, co-operates, perhaps, also as a causative excitation. The fact of the matter is, that like in Graves' disease, the position is not

¹*Eulenburg*, Ueber puerperale Neuritis und Polyneuritis. (*Deutsche Med. Woch.*, 1895. Nos. 8 and 9.)

²*Dirmoser*, Der Vomitus Gravidarum perniciosus. Vienna, Braunmüller, 1901.

such that the mere alternative: "Auto-intoxication—or neurosis!" suffices; the probability is rather in both cases the assumption of a neurosis resting on a primary toxic (auto-toxic) basis.

With regard to the neuritis of pregnancy and of the puerperium it is moreover not necessary that the auto-intoxicating poisonous substances should always emanate from the gastrointestinal tract; in some cases the toxins may, like in eclampsia, be of a renal (nephritic) origin or produced in the internal generative organs. That they are bound to vary very much in quality and quantity is evident from the highly unequal intensity and extent of these forms of neuritis which fluctuate between the mildest that are cured as a rule within a short time and most severe ones that are prognostically very unfavourable and frequently end in death. In cases of the latter sort the clinical picture can, if it develops during the pregnancy, assume such a serious aspect that the artificial interruption of the pregnancy may require to be taken into consideration. The milder and more serious forms of puerperal neuritis must, of course, diagnostically and prognostically be distinguished from the obstetric and puerperal forms of paralysis arising from local causes, which affect chiefly the region of the sciatic nerve and are due either to mechanical injuries (pressure of the head before and during the labour; compression by forceps) or to infectious-septic attacks (pelvic thrombosis and phlebitis). These cases have frequently, and especially by English writers (*Mills*) been confused with puerperal neuritis.

9. Diseases of the Spinal Cord.

Tabes dorsalis: influence on the generative functions.—Of the chronic diseases of the spinal cord we have to consider somewhat minutely from the standpoint of our present subject the most frequent and important, and to a certain extent typical sclerosis of the posterior columns (grey degeneration of the posterior columns) which is known under the name of "tabes dorsalis."

It is known that tabes consists as a rule of a progressive and severe disease which attacks principally the posterior columns that serve as sensory conductors, or in other words the radiating regions of the posterior spinal roots, and which can, moreover, begin also in the peripheral divisions of these fibres (as a peripheral or "neuro-tabes") or even remain under certain circumstances confined to these divisions permanently or for a time. The clinical cardinal symptom of the disease, the locomotor ataxy, must be regarded as a "sensory" one in so far as it is caused directly by a disappearance or by a tardiness or difficult action of the regulating and centripetally conveyed excitations which are subject to co-ordination. It is these disturbances in the centripetal paths which also exert their influence upon the sexual life, because they bring about as a rule a constantly progressing diminution in the reflex impulses effected from spinal (or sympathetic) reflex-centres upon the genital excitation, especially in man. The interference with the virility, or the impotence in tabetics depends therefore mainly on hypo-reflexes or a-reflexes, similar to the equally diminished or extinct vesical and rectal reflexes, and—at least it was formerly thought so—upon a certain local connection with the latter, inasmuch as the genital reflex centres have by experiments on animals been located in the lowest portion of the spinal cord close to the vesico-spinal and ano-spinal centres. The more recent, extensive and exact researches of *L. Müller* which have been confirmed by clinical observations, have, however, shown that neither the centres for defæcation and micturition nor the reflex centres for erection and the intra-urethral discharge of the semen are situated in the lowest division of the spinal cord, but that these centres must rather be looked for in the sympathetic ganglia of the small pelvis (ganglion mesentericum inferius and plexus hypogastricus), only the ejaculation of the semen being immediately governed by a centre lying in the spinal cord, that is, in the conus medullaris.

But the opinion with regard to the disturbances in the virile power that accompany tabes and other diseases of the spinal cord does not alter materially in consequence of this modification in our topographical views as to the situation of the genital

reflex centres. The centripetal paths which elicit these reflexes run partly at least along the nervus dorsalis penis (terminal branch of the nervus pudendus communis) to the conus medullaris, and from here through communicating branches to the ganglia on the pelvic floor and further upwards along the three uppermost posterior sacral roots to the spinal cord. The disturbance in the virility of tabetic patients, like a considerable part of what is usually called "spinal impotence," must therefore be attributed to an obstruction or abolition of the centripetal conduction along these paths, and especially along the fibres of the three upper posterior sacral roots. The forms of impotence resulting in this manner may, according to the method of distinction suggested by me¹ be subdivided into peripheral sensory impotence (through functional disturbance in the uro-genital centripetal paths which form the means of communication with the sympathetic reflex ganglia) and spinal sensory conduction-impotence (through functional disturbance in the spinal portion of the ascending genital tracts). In both of these forms peripheral irritations of sufficient intensity are no longer carried either to the sympathetic or the intra-medullar genital reflex ganglia, capable of eliciting the normal mechanism of erection and ejaculation. The effect is generally in the first place a rarer occurrence, as well as diminished intensity and duration, of the erections, so that the process of irritation is delayed, or altogether arrested also in the remaining ganglia which are successively called into action, and a sufficient degree of orgasm for the purpose of copulation no longer takes place.

Tabes and marriage.—In this way all kinds of disturbances in the virile power may arise, from the slightest diminution up to complete and permanent impotence. The libido may at the same time become more or less reduced or remain unimpaired. As a rule it is less or absent, which is probably to a great extent due to the unfavourable influence of the disease of the spinal cord upon the psychical condition of the patient. In order to understand the effect which the disease exercises with regard to marriage and the married state, a great deal depends,

¹Sexuale Neurasthenie in "Deutsche Klinik" Fascic. 49-51, pp. 179 ff.

of course, upon whether the *tabes* has developed in the course of the married life and at what age, or whether the husband was already suffering from *tabes* at the time of the marriage and he entered the matrimonial state in full knowledge of this fact. The latter alternative may hardly seem credible, but I know quite a number of such marriages including not a few which turned out perfectly happy. This depends of course to a very great extent upon the temperament, inclination and self-denial of the female partner. There are women—and this speaks well for the moral character of the female sex—who devote themselves, not with sad resignation but with a true love and self-sacrifice, to the task of acting as a real helpmate and attendant to a severely-stricken and probably incurably-afflicted husband for the rest of his life, without being anything but a wife in name; charitable nurses and deaconesses of matrimony who find full compensation for their natural maternal and wifely instincts in this voluntary shouldering of a heavy burden. In others, no doubt, the disappointment makes itself felt sooner or later. The matter is still more serious as a rule in those cases where the diseased process begins to develop gradually after a longer or shorter duration of the married state. It is further to be remembered that *tabes* has in the great majority of cases been preceded by a syphilitic infection—though I am far from looking upon syphilis as the only cause of *tabes* or on the latter as a sort of “meta-syphilis”—; that the infection occurred as a rule some time before the contraction of the marriage, and that *tabes* may take from the time of the infection either 2 or 3 years to develop, or from 15 to 20, which means that it may manifest itself at very different periods of the married life. We also know that *tabes* begins most frequently in the so-called prime of a man's life, between the ages of 30 and 50. All these circumstances play in each individual case a considerable part, along with the other personal circumstances, such as the inclination and character of the married partners, etc. Under such conditions, too, there are women of the kind described above who resign themselves cheerfully, even after a short married happiness, to their severe ordeal, and the devotion of these wives deserves the more recognition as under similar circumstances the

other way about, when the wife happens to be incurably afflicted, the husband exhibits as a rule far less patience and resignation. But there is no lack of women who look down upon their unfortunate husbands with contempt or even hatred and who do not even try to conceal these feelings but show them openly and without any disguise. Between these two extremes we have the large army of those dull and indifferent creatures who have had enough of wifehood and motherhood and in whose case familiarity with the trouble or superficial compassion makes the continuation of the relationship at any rate at least endurable. Others again realise only with great difficulty and gradually or not at all the seriousness of the disease.¹

Tabes in the female sex.—As regards tabes in women, it has already been mentioned that the disease is altogether relatively rare in the female sex; to every 10 men there is at most one woman who suffers from genuine tabes. Where married women are attacked, it is, perhaps, partly in consequence of syphilitic infection from the husband, it happens therefore—and I have seen several such cases—that husband and wife both suffer from tabes, where the wife took ill much later than the husband; in one case this occurred after his death. The special consequences of tabes as regards the wife show themselves on the one hand in sterility which need not necessarily be caused by the impotence of the husband exclusively, but may also be due to the diminished action of the spinal reflex centres in the wife, which seem to possess some importance in the production of the sexual excitement, the orgasm, during coitus, and therefore indirectly also in regard to impregnation. Whether this action consists of a change in the uterine secretion which favours the entrance of the spermatozoa into the uterus, or, which is more probable, of a process of erection in the vaginal portion of the uterus, similar to the erection of the penis and

¹In *Gabrielle Reuter's* sentimental novel "Liselotte von Reckling" the self-sacrificing heroine gives her hand to a young man who is chained to his sick-bed by an incurable paralysis of the spinal cord. But when the poor patient, seized by a strong sensual emotion, attempts to embrace her eagerly, she experiences such an aversion that she runs away as if deprived of her senses, and forthwith breaks off the engagement.

working in the same sense, cannot at the present time be decided with certainty. Besides, in estimating each individual case, it must not be overlooked that a somewhat diminished virility in the husband is alone sufficient to prevent the orgasm of the wife from coming into action properly, and to operate in this sense, too, as an obstacle to conception. Finally, tabes and other diseases of the spinal cord in women can have an important influence also upon the course of pregnancy and labour. In a few cases of tabes (*Macdonald*) an extraordinary delay has been observed in the process of delivery, which must probably be attributed to the deficient conduction of centripetal irritations in consequence of the destruction of sensory tracts. This circumstance is also said to have produced in other cases indolence of labour-pains in spite of an otherwise normal labour—not only in tabes, but also in spinal caries, and (according to *Fellner*) in one case of multiple sclerosis.

Tabophobia.—A word or two on “tabophobia,” which is becoming almost as frequent, and can cause nearly as much trouble to the patient, sometimes also to the doctor, as real tabes. I have seen it not only in men, in whom it is very common as a special form of neurasthenic hypochondria, but occasionally also in women. Insignificant paræsthesias or pains, but especially a diminution in the libido and a supposed diminution in the virility, lead to the beginnings of a self-diagnosis which is gradually completed by information from friends and others and by reference to encyclopædias and doubtful medical or pseudo-medical works; this is particularly the case if a guilty conscience on account of former masturbation or of a possible syphilitic infection supplies etiological factors, or if the wrongly-executed attempt to obtain the patellar reflex gives a negative result. In such cases it is possible for the above-described “psychical” impotence to declare itself, and through a “vicious circle” on its part to co-operate in apparently confirming the diagnosis. Sometimes one can succeed by an elaborate manipulation and fussy obtainment of the knee-jerk phenomenon, accom-

panied by a few semiological remarks, to convince the patient of the groundlessness of his fears and to restore to him his lost self-confidence. But this satisfactory result is often of short duration only. In the majority of cases the desired result can only be achieved permanently by a systematic psychical influence on the part of a competent authority, aided by a prolonged observation-period confirming the non-occurrence of the dreaded *tabes*-symptoms.

Other diseases of the spinal cord.—The effect of other forms of disease of the spinal cord we can dismiss with a few remarks. In men they frequently present a picture of sensory impotence analogous to that of *tabes dorsalis*—often also the picture of motor-conduction-impotence through functional disturbance in the spinal portion of the descending (centrifugal) genital tracts, or in the reflex arcs themselves. On the other hand, contrary symptoms of morbid sexual irritation may occur in the form of abnormally increased and lasting erections, or so-called “priapism.” This, subjectively very painful, but objectively less prominent, phenomenon is observed comparatively often in transverse lesions of the cervical and dorsal spinal cord which are accompanied also by other symptoms of irritation, and more rarely in isolated localised lesions in the lumbosacral portion and in the *conus medullaris*. This clinical experience seems to support the view (confirmed also by experiments on animals) that the efferent paths going from the brain to the erection-centre, emerge from the spinal cord at a comparatively high level, namely in the upper lumbar region. But apart from this centrifugal innervation coming from the brain, the erection-centre can also receive reflexly an increased irritation from the periphery by way of the above-described centripetal conducting tracts, which gives rise to the production of repeated and morbid erections in patients suffering from disease of the spinal cord. Not infrequently these conditions pass into a state of diminished virility or impotence, and in some of the severer forms priapism is even from the very beginning combined and associated with impotence in quite a peculiar manner.

It is finally necessary to call attention to the imperfect de-

velopment of the genital apparatus and of the genital functions which accompany certain congenital malformations in the spinal cord (meningocele spina bifida occulta) or which may arise in connection with a partial arrest in the development and the growth after diseases of the spinal cord in young children (infantile spinal paralysis). In women the latter cause may facilitate the production of severe pelvic contractions which require as such occasionally the operative interference of the obstetrician (*Fellner*.)

10. *Diseases of the brain.*

Organic diseases of the brain; their effect on the genital functions.—We have already discussed in detail the great central neuroses, neurasthenia, hysteria, and epilepsy, from the point of view of their relationship to marriage and the married state. The so-called "mental diseases" in a narrower sense, which from their nature loosen as a rule the inner bonds of matrimony so long as they last, and often enough lead to outward separation as well, must be left for discussion to the next chapter.

There remains therefore to say something here on the organic diseases of the brain, which though they manifest frequently a concurrent psychical affection, do not exhibit such an amount of disturbance on the part of the emotions and the mental life as to necessitate their inclusion among the real psychoses.

In this connection we must consider first the influence of organic cerebral diseases on the male genital functions, but we have unfortunately very few undisputed clinical experiences that can assist us in the matter. Generally speaking, it is perfectly clear that the influence of organic disease of the brain can make itself evident in very different ways, by a diminution or abolition of the virility, as well as by morbidly increased erections (priapism), by the disappearance or by a morbid increase of the sexual libido, and by manifold anomalies and perversions of the sexual sensation and sexual desire. Impotence may ensue through a disturbance in the conduction or an interruption in

those tracts which represent the intra-cerebral continuation of the ascending and descending genital conducting paths of the spinal cord, as well as through disease of their cortical centres and of the inner-central communications, and finally through disease in the higher psycho-sexual centres supposed to be situated further than these cortical centres and associatively connected with them, that is, the centres of the imaginative pictures and sexual representations. But as not only irritative but also inhibitory influences arrive from these centres to the spinal and sympathetic genital reflex centres, the absence of these central inhibitions can also be productive of excessive irritations of a morbid nature, morbidly increased and painful erections (priapism) and so forth. In the female sex, analogous conditions can give rise either to sexual anæsthesia (anaphrodisia) or to a complex of symptoms of a morbidly increased sexual irritation (nymphomania). Of interest is in this connection the influence of certain cerebral poisons which, like opium and morphia, act at first often as stimulants, but in the further course weaken and paralyse the sexual desire. In men they also act eventually upon the virility, whereas in other habitual dietetic poisons (alcohol, tobacco) the depressing effect on the sexual power is often from the very beginning highly pronounced.

Unfortunately we possess next to no information on the localization of the genital conducting tracts and centres in the brain, especially also on the situation of the psycho-sexual irritations and inhibitions and on their connections with the cortical centres. It has often been assumed that the cerebellum plays here a prominent part, since the old craniological legend emanating from *Gall* and adopted by the older physiologists believes in some sort of a special association between this organ and the sexual functions. But neither recent experimental researches nor clinical observations have supplied any useful proofs in favour of this contention. Modern physiology knows nothing about a special relationship between the cerebellum and the sexual activity, nor do symptoms relating to the sexual life play any appreciable part in the symptomatology of cerebellar diseases (tumours, hæmorrhages and softening) and in their topographical diagnosis. Of course, they are just as devoid of

importance in the special symptomatology and local diagnosis of other affections of the brain.

What is certain is, that in the diseases of the brain which take the most chronic course (sclerosis, tumours), the virility may remain unimpaired until the final stages of the illness. On the other hand the sensory deteriorations, the changes in the moral life and in the intelligence which often accompany these diseases, naturally make themselves apparent also on the part of the sexual sensation and the sexual impulses in a more or less effective manner. It is obvious that in the depressive-melancholy conditions of sclerosis-patients, in the stupour of those suffering from tumour, in the apathy and indifference of the advanced stages of organic brain-disease, the sexual desires and impulses must disappear or be reduced to a minimum. Vice-versâ, with the growing loss of the sensory controlling influence, the inhibitions exercised under normal circumstances may also vanish; the patients may gratify their desires without shame or consideration for others; they may when they are bedfast exhibit or masturbate at the sight of a woman, and so on, a state of affairs which is fairly often observed not only in paralytics, but also in secondary dementia after focal lesions, for instance, apoplexy.

Pregnancy and disease of the brain.—In women a certain influence of the brain on the contractions of the uterus (such as was formerly believed on the strength of experiments on animals to proceed also from the cerebellum) cannot altogether be denied, although nothing positive is known on the point. But apart from that, there is in the combination of pregnancy with severe organic disease of the brain, especially tumours, an undoubted element of danger. In many cases sudden death has been known to occur during labour, the cause of which could not be explained, and which might be looked for, perhaps, in the suddenly altered conditions of the circulation, in the increased blood-pressure and the greater flow of blood towards the brain (*Fellner*). Prophylactically it might therefore become necessary, especially in the case of large tumours with marked symptoms of spacial encroachment, to institute premature labour in the interest of the yet viable child.

XXII

Insanity in Relation to Marriage

XXII

INSANITY IN RELATION TO MARRIAGE

By Professor E. Mendel (Berlin)

In a not insignificant number of cases the question is mooted either by the parties about to engage themselves in matrimony or by their parents or guardians whose consent to the projected marriage is sought, whether insanity has ever occurred in the respective families. This is as it should be!

From time immemorial it has always been known that there is hardly another disease which shows such a tendency to reappear in the descendants in the same form as in the ascendants, or in any other, as insanity.

The consideration of the importance of the occurrence of insanity in the ascendants in relation to the danger of its appearance in the descendants, in other words, the consideration of the hereditary predisposition demands a somewhat detailed analysis of the facts which psychiatry has established in this respect.

Hereditary predisposition.—The simplest case of inheritance of a mental disease is that wherein the child of an insane father or mother or of insane parents also becomes insane.

We assume, where there are no other causes demonstrated for the origin of the insanity in the descendants, such as trauma, cerebral syphilis, etc., that the predisposition to the disease is deposited in the germ at the time of conception (conceptional direct heredity).

If under ordinary circumstances crossed heredity occurs as a rule, that is, the daughter resembles the father, and the son the mother, in hereditary insanity the influence of the mother shows itself principally in the daughter and that of the father in the son. The daughter especially who is like her insane

mother with respect to constitution, temperament and character is relatively most subject to be attacked by mental disease. The paternal influence in the transmission of an hereditary predisposition is, as *Esquirol* has already pointed out, smaller.

The heredity is called uniform if the same kind of mental disorder appears in the descendants as was or still is present in the ascendants; in this connection it happens occasionally that the uniformity refers to the period of life as well, and that the disease breaks out in several generations at the same age (corresponding heredity).

The heredity is designated as unequal (polymorphous) if the forms vary.

Sometimes the new form arising in the descendants, presents some of the features of that which was present in the ascendants, so that peculiar clinical pictures develop. For instance, a periodical insanity of the mother may produce imbecility in the daughter, of a form which shows otherwise unusual periodical exacerbations.

The hereditary predisposition is called transformed if in the place of insanity a general disease associated with an affection of the nervous system, or some neurosis, appears in the descendants (diabetes, arthritis nodosa, epilepsy, hysteria, hemicrania, etc.). *Orschansky* has extended this law of transformation further still, and he points out, that the children of fathers suffering from diseases of the chest are often subject to nervous or mental diseases. A sort of general diminished resistibility of the organism is thereby inherited; as to which part of the same gets attacked, that depends on the injuries to which the organism is particularly exposed and which affect the specific organ.

If both parents are insane, or only one of them is insane and the other suffering from a disease of the nervous system which experience shows to have a tendency to heredity, the result is a cumulative inheritance which creates often those severe forms of psychosis (hebephrenia)—that are either congenital or gradually developed during puberty—and which render the subject of marriage altogether out of the question. Occasionally, however, insanity breaks out in the third decade and it then assumes as a rule a progressive character.

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With the exception of those cases in which heredity has produced already in the germ such changes that a normal development of the same does not take place and the evolution of the brain especially is impeded, so that the child is born imbecile or an idiot, and apart from the cases in which the development of the mental organs is possible, but only up to a certain point, after which no further progress can be made, this often coinciding with the attainment of puberty,—with the exception of these cases, in which the insanity appears in the descendants in the form of mental decay as such, the hereditary tendency to insanity represents in by far the majority of the cases only a predisposition to mental disease. A further injury must supervene to produce disease in the brain rendered less resistive by the predisposition.

The evil elements which may be found in marriage as such and which develop that predisposition to the disease, will be considered later on. Here we only wish to point out that the fact that not the disease as such is inherited but only a predisposition to it, explains why in a family in which an hereditary tendency to mental diseases undoubtedly exists, one or even two generations escape being attacked, the insanity appearing again in the next generation. We speak in such cases of an atavistic heredity (*Legrand du Saulle*) or of heredity *per saltum* (*Burrows*).

Though the tendency remained in one or two generations latent, it was nevertheless inheritable. Such a latent predisposition we must also assume in the so-called collateral heredity.

The individual in question, it is true, shows no cases of mental disorder in the direct ascendants, but such cases have occurred in the consanguineous collateral lines, in uncle, aunt or cousin.

But a prominent alienist (*Neumann*) has said that though it is possible to inherit money from an uncle or aunt, he considers it impossible for the inheritance to consist of a mental disease.

Literally this is, indeed, quite true, and the expression "inheritance" is not very appropriate. But if we attach any importance to the answer to the question, whether collateral heredity is present, it is only because the affirmative denotes in a given case the possibility or even probability that insanity existed in

some unknown direct ascendant, the predisposition to which became manifest in one or two lines only, but remained latent in that of the individual in question.

But the hereditary tendency does not remain latent in entire families only; experience teaches—and this is the consoling feature in the dreadfulness which might seize, in virtue of the above remarks, anyone who includes among his ascendants an insane person, perhaps some “crazy” aunt—that only in a certain percentage does the existent predisposition develop into disease proper.

But why the same procreators, one of whom is insane, should beget children, of whom one, or perhaps two, and very rarely three, are attacked by mental disease, while a large number of brothers and sisters remain healthy and, perhaps, endowed with extraordinary mental faculties and great mental resistiveness—this is a question for the answering of which we lack so far every scientific foundation. Neither do we possess any extensive statistics from which we might be able to infer how great the danger (expressed in figures of percentage) of an apprehended insanity is in individuals who spring from an insane family, how great the number of those who are hereditarily predisposed and who have yet remained healthy throughout their lives. The extent of that danger is obviously not shown in the numerous tables which give us the number of insane who are hereditarily predisposed.

There are only a few communications on the point: *Jenny Koller* found among 370 mentally sane individuals 59% hereditarily predisposed. The percentage of those hereditarily predisposed among the insane was 76.8%.

Strohmayer saw 30% of individuals hereditarily predisposed remain healthy in spite of various injuries.

A complete exhaustion of the predisposition may take place without a crossing with healthy blood, or other measure of improvement having been adopted.

Hereditary predisposition of insane individuals.—The statements of authors respecting the hereditary predisposition in the insane are exceedingly contradictory.

Jarvis, Aubanel, Thore found such predisposition in only 4%

of their insane patients; also *Schlager*, who admits hereditary predisposition only where the father or mother of the patient was insane before or during the act of procreation; against these figures, those of *Moreau* show the number of insane patients with hereditary predisposition to be as high as 90%, because he, like *Lélu* and *Burrows*, includes in the predisposition not only the mental diseases which have occurred in the respective families, but also all other possible nervous disorders in the ascendants.

Although scientific experiences on the inheritance of nervous diseases do not justify *Schlager's* view, that of *Moreau* goes decidedly to the other extreme, inasmuch as this author takes into account with regard to hereditary predisposition so many abnormalities in the ascendants, some of them of hardly any significance, that there are finally very few people left in the happy situation of having no "hereditary predisposition."

If the above-mentioned statistical statements offer us therefore no proper survey, because the authors take either too narrow or too wide a view of the term "hereditary predisposition," the tabulations of large public institutions suffer from the defect that, on account of the social position of the greater number of the inmates, it is often impossible to obtain correct anamnestic data. Frequently even the healthy relatives of these inmates are unable to state anything definite when asked about their ascendants or other members of the family.

With regard to simple psychical disorders (melancholia, mania, paranoia, etc.), there results from *Mayer's* collection (reproduced on page 112 of this work) of 47,379 male cases in Prussian lunatic asylums an heredity-percentage of 30.61%; and of 54,718 female cases an heredity-percentage of 32.56%. I have found in the same forms of insanity among the conditions of a private asylum about 60%.

But whether we take the percentage of the hereditarily affected insane to be higher or lower, there can under no circumstances be any doubt that hereditary predisposition plays in the etiology of mental diseases a very considerable part, either as a direct cause of insanity (especially of idiocy) or as a predisposing factor of immense importance.

Hereditarians, degenerates.—But this is not all the danger to which hereditary predisposition subjects the offspring. It happens by no means rarely, that although under its influence a mental disease in the narrower sense does not develop, a peculiar temperament, an odd way of thinking, arises, which differs from that of the average normal man. I have distinguished 3 particularly frequent groups of such hereditarians who present on the whole a large number of varieties.

1. Those who from an early age are dissatisfied first with everything round their own families, and afterwards with the whole world, who look upon everything as a sham, upon life as not worth living and in whose eyes suicide is the only correct thing.

They fulfil the duties assigned to them promptly and very often in a faultless or even excellent manner. Occasionally, however, especially if they are not under proper control, they lose all energy and long pauses occur in their activity. They almost always make hypochondriac complaints which exacerbate from time to time; the dreaded spectre of insanity, the actual occurrence of which among their ascendants is constantly haunting them, plays as a rule the principal part, and fear and anxiety for the future induces many an hereditarian of this sort to put an end to his miserable existence.

2. Those who show an especial and frequently one-sided aptitude culminating very early in mental maturity, but who constantly exhibit at the same time both as to their feelings and ambitions an excessive irritability.

A rash formation of certain plans, an eager wish to carry them into execution, succeeded by just as rapid a relinquishment and laying-aside of what had only just been ardently desired, constitutes a prominent feature. Excessive capriciousness, incalculableness of temperament and impulsiveness of action are accompanying symptoms.

3. Those who distinguish themselves by their behaviour in society, by their extraordinary habits, their

peculiarities, their odd notions and opinions, which they not infrequently advocate and defend most skilfully, while ignoring or acting contrariwise to the views generally adopted. Such individuals are described in popular language as "originals," or "crazy geniuses," or "cranks."

The individuals belonging to these categories have also been called "degenerates." They present not infrequently physical signs of degeneration, malformations of the skull, of the ears, pharynx, teeth, etc.

In some of the hereditarians phobias or hallucinations occur, or both of these together.

They may attain old age without becoming insane, but they are during the whole of their lives constantly on a balancing-rod on which they try, not without a serious effort, to preserve their equilibrium. Special occasions which excite them unduly, particularly such as have a depressing influence, can throw them off their balance; the result is temporary, recurring or permanent insanity.

Here, where the conditions of married life come into special consideration, it is particularly worth mentioning also that in such hereditarily predisposed individuals, impotentia generandi, inverted sexual sensation, anæsthesia sexualis feminarum, etc., are by no means rare complications.

In connection with the facts above described, on the relationship between hereditary predisposition and mental diseases, the question now arises:

Is there any special danger for a person in whose family insanity has occurred, to become insane too? Is this danger so great that marriage ought to be dissuaded from or medically prohibited?

Prohibition of marriage in collateral hereditary predisposition.—We have to consider first the point, what should the doctor's advice be in those cases in which a blood-relation in the collateral line has been or is insane? If we wish to answer the question definitely whether an hereditary predisposition is thereby created, it is necessary to establish in the first place of what kind the insanity of that blood-relation

was or is. Whether it was acquired through syphilis, alcohol or some other poison, thus having nothing to do with an hereditary tendency of any sort; whether it was, perhaps, a senile dementia which arose at a very advanced age in an individual who had formerly always been healthy, and which cannot therefore be brought into association with an hereditary predisposition.

Where all these factors can be excluded, there is still the question left open whether the hereditary tendency in the family has not become exhausted with the insanity of that particular relative.

If we bear in mind further that marriage would become permissible in very exceptional cases only, if it were necessary in each individual case to eliminate every possible hereditary factor, we may say that such isolated occurrences of insanity in a family do not constitute any obstacle against the contraction of marriages.

But the medical opinion must needs be of a different character in spite of the normal constitution of the direct ascendants, if a large number of cases of insanity have occurred among the blood-relations, and especially if these diseases are demonstrable not only on the side of the father, but also on the side of the mother.

In such cases one may well exclude an accidental coincidence, and admit an actually existent family predisposition; the dangers of the latter may unhesitatingly be described as so considerable either in regard to the person contemplating matrimony or the eventual descendants of the same, as to render the marriage unadvisable.

Prohibition of marriage in direct hereditary predisposition.—Where insanity is demonstrable in the direct line, that is in the father or mother of the individual contemplating marriage, it is not possible to answer in a general way the question whether the marriage should be permitted or not; here, too, each case requires special analysis of its individual features.

Above everything we must inquire into the etiology and form of the mental aberration.

If somebody who is not subject to the influence of an heredi-

tary predisposition develops a psychosis in consequence of an acute infectious disease, such as influenza or pneumonia, or some other acute intoxication, and if the same takes the form of a delirium hallucinatorium, a dementia acuta, melancholia, mania, or acute paranoia¹ there can be no question of any special danger arising thereby to the offspring. The same may be said of course with regard to those mental disturbances which arise in the puerperium on other grounds than hereditary predisposition, and also with regard to those which are caused by cerebral syphilis, if the syphilis itself was not hereditary. It is otherwise in those chronic mental disorders which assume the form of paranoia or periodical or circular psychosis, and in which there is as a rule such an amount of hereditary transmission on the part of the ascendants as to justify in itself an apprehension with regard to the descendants.

In all such cases the question must further be considered whether the son or daughter whose marriage is in contemplation was conceived before or after the beginning of the illness. I agree with *Griesinger* that the danger is greater for the offspring if the father or the mother was insane at the time of conception, in opposition to *Sioli* and *Legrand du Saulle* according to whom the disease of the inheriting descendant sets in independently of the circumstance whether the procreation took place before or after the manifestation of the disease in the ascendant, which means that the predisposition to insanity was already present before its outbreak, and that it must have been communicated to the offspring.

Prohibition of marriage in insanity of father and mother.—If both father and mother are in a state of chronic insanity and it is not possible to prove—which is indeed highly rare—a coincidence of those external circumstances that have been mentioned above as accidental causes of insanity, the dangers to the offspring appear doubled and so great that marriage must be decidedly opposed.

¹There are no two text-books on mental diseases which give the same name to the same morbid condition; my nomenclature follows that adopted in my "Leitfaden der Psychiatrie."

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Prohibition of marriage in insanity of father and mother.—If both father and mother are in a state of chronic insanity and it is not possible to prove—which is indeed highly rare—a coincidence of those external circumstances that have been mentioned above as accidental causes of insanity, the dangers to the offspring appear doubled and so great that marriage must be decidedly opposed.

¹There are no two text-books on mental diseases which give the same name to the same morbid condition; my nomenclature follows that adopted in my "Leitfaden der Psychiatrie."

Prohibition of marriage in progressive paralysis in the ascendants.—Special mention must be made here of progressive paralysis, on the one hand on account of its great prevalence and on the other on account of the special conditions which arise in regard to heredity. As to those who declare the paralysis to be a syphilitic, metasyphilitic or parasyphilitic disease of the nervous system, the question whether the offspring of the paralytics may marry or not, will by them be answered mainly according to the principles which apply with regard to syphilis.

But it is not only not proved that general paralysis is a syphilitic affection; there are, on the contrary, weighty reasons against this assumption, and first of all, the fact that in about 25% of all the cases there is no trace of syphilis in the history of the paralytic patients. Hereditary predisposition certainly plays in progressive paralysis no such great part as in the functional psychoses. I have already mentioned in my monograph on progressive paralysis (*Die progr. Paralyse der Irren*. Berlin 1880. p. 234) that out of 184 cases of paralysis which I personally observed, hereditary predisposition was demonstrable in 34.8% of the cases, whereas out of 122 cases of functional psychosis, the hereditary predisposition was proved in 56.5%.

Others have furnished different figures, which fluctuate within as wide limits as the statements on the percentage of heredity in insanity generally. *A. Westphal* found 5.4%, *Arnaud* 53% of hereditary tendency in paralysis. *Ziehen* gives 40% of hereditary predisposition in paralysis, whilst for mania the figure is 75% and for melancholia 50%.

In the above-mentioned table of *Mayet* there is under No. 6 which gives the admissions of male insane persons with simple insanity into the Prussian lunatic asylums from 1884 to 1897, 30.61% of hereditary predisposition; in the figure giving the accession, for the corresponding period, of male paralytics (18,233 cases) the heredity-percentage is only 18.06%; as to the women admitted during the same time there is an hereditary predisposition in 32.56% in simple insanity, and one of 15.86% (746 cases) in paralytic insanity. Even the most ardent supporters of the eminent importance which hereditary predisposi-

tion is supposed to have in progressive paralysis (*Näcke*) do not deny that a "severe, multiple, hereditary taint is not so frequent in general paralysis as in other psychoses."

If a paralytic father or a paralytic mother does not therefore constitute a very considerable objection to the marriage with one of their children, as is the case with respect to other psychoses in the ascendants, there remains the further question to be considered whether any difference exists between the children who were born before or during the disease of their father or mother.

Scholten (quoted by *Näcke*) has instituted an investigation on this point; 137 children were descended from 23 paralytics who were not hereditarily predisposed but syphilitic; of these 18.9% died in their first year; 26.2% showed nervous disorders, convulsions, or gross deviations of character. During the time when the disease of the father became manifest, 6 children died, 1 child died after 4 weeks in convulsions, the others were nervous or abnormal and one feeble-minded. Within the 10 years preceding the manifestation of the paralysis in the procreator 49 children were born, of whom 48.9% were abnormal or nervous. The other 88 children had come into the world 10 or more years previous to the occurrence of the disease in the father, and only 13.6% of these were abnormal.

This would show that the children whose procreation took place a very long time before the appearance of distinct paralytic signs in the father are more rarely abnormal than those procreated later on and especially than those born during the disease.

There is, however, another point requiring looking into, and which is capable of facilitating the answer to the question whether a paralytic father or a paralytic mother constitutes a marriage-obstacle.

In those cases in which an influence of the paternal or maternal paralysis takes place at all on the mental condition of the child, that influence becomes as a rule clearly manifest at an early age generally before the 20th year. It shows itself then either in the form of mental weakness or by the formation of those characteristics which I have above described as signs of

degeneracy, and in very rare cases by the appearance of an infantile paralysis. Consequently, in the great majority of cases where the paralysis of the father or of the mother is capable of exercising an unfavourable influence upon the mental condition of the child, that unfavourable influence is already clearly apparent at the time of life when marriage is contemplated, in the form of some demonstrable abnormality. The question of the marriageableness must therefore in such a case coincide with the question as to whether mentally abnormal individuals may marry at all. For the rest, it may also be mentioned that a not inconsiderable number of children of paralytic parents remain permanently healthy. In several cases I have been able to ascertain this permanent health of such children up to an advanced age, although they had been conceived and brought into the world by paralytic mothers.

After what has been said I should sum up my view of the subject to the effect that where there is no considerable hereditary predisposition present, where the father or mother became paralytic many years after the birth of the child, and the latter shows no signs of a mental abnormality, a prohibition of marriage on the part of the medical adviser does not seem to be necessary. I should, however, regard such a prohibition as indicated in every case where the danger is enhanced, that is where the father and the mother are or were paralytic.

Dangers to children springing from the marriage of hereditarily predisposed individuals.—Our observations have so far dealt on the whole with the question whether any and what sort of dangers are involved in the hereditary predisposition to mental diseases, and how far the same must be regarded as an obstacle to a contemplated marriage in view of the circumstance that the predisposed would-be husband or wife is liable to become insane. But in the cases of this class it is not only the dreaded eventual insanity which must be taken into consideration, but also—and rightly so—a regard for the future, a fear lest the children of the parents in question should be endangered despite the mental capacity of the latter remaining normal.

It has already been mentioned above that there is a so-called

atavistic heredity, that the hereditary predisposition may in one or even two generations remain ineffective and the insanity break out in a subsequent one.

All those apprehensions, therefore, which exist against the contraction of marriage wherever there is a considerable and especially a direct hereditary predisposition, so that the latter must, in agreement with what has been said, be regarded medically as a marriage-obstacle, are materially added to, seeing that even if the married persons in question remain mentally sound, the children, or at least one or the other among them, are subject to the risk of being attacked by mental disease.

This danger is increased still more if the other married partner is under the influence of the same or some other morbid predisposition which is capable of weakening his or her resistibility, or if the marriage takes place among blood-relations, by which the injurious influences of an hereditary taint become aggravated.

Having now dealt with the importance of the influence of hereditary predisposition on married life and on the eventual offspring resulting from the same, we have further to consider the question whether a person who has already been insane once and become cured, may marry or not.

The marriage of persons formerly insane.—

To answer this question it is necessary to analyse carefully the past disease. As with regard to hereditary predisposition, so here too, an accidentally acquired insanity which arose in connection with, and on the basis of, an acute intoxication, as an intoxication-psychosis, cannot be regarded as a marriage-obstacle, unless that psychosis broke out under the influence, and by the aid of, a considerable hereditary predisposition.

In the latter case, and especially in the female sex, the apprehension is justified that on account of the various injuries to be discussed yet later on, which marriage brings in its train and which, as we know from experience, favour the outbreak of psychoses (puerperium, etc.), a fresh attack will possibly occur.

But if in an individual at about the age which generally comes here into question, namely the second decade or thereabouts, a psychical affection had existed without any clearly

demonstrable outward cause, there is a considerable danger of relapse, particularly because of the just-mentioned injurious influences of marriage.

Menstrual psychoses.—I should only like to make one exception in this respect as regards the female sex, and that is the so-called menstrual psychoses. One sees occasionally in young girls before or along with the commencement of menstruation, more rarely immediately afterwards, psychical disturbances which may sometimes last for weeks and which present as a rule an hysterical character. In these cases the consummation of marriage is generally not only not productive of any special danger, but it frequently brings about an improvement and cure of the abnormal psychical irritability.

There is no need to enter here into a detailed discussion of hysteria itself and of the mental disorders resulting from it, as this disease of the nervous system has already been dealt with fully in the preceding chapter.

The physician must attach special importance to the investigation whether a psychical affection which has existed formerly, or perhaps several times, does not belong to a periodical disease which often develops in the 2nd decade, or to a circular psychosis. Experience teaches that these psychoses make remissions and intermissions, especially at their commencement, and before their full development, so that they may simulate mental sanity.

On the whole the principle must be adhered to, that if an individual had been psychically ill before marriage, and this psychical disease was not the consequence of external somatic influences but mainly the manifestation of a considerable hereditary predisposition, that individual is unsuitable for matrimony, since, especially in the case of women, married life presents dangers, by no means insignificant, in consequence of which fresh attacks will occur.

Deception with regard to former insanity.—

We must not omit here to mention that parents conceal sometimes carefully the fact that their child has already had an attack of insanity or that institutional treatment has, perhaps, already been carried out. They are silent on the point in the hope that the consummation of the projected marriage will have a

beneficial effect, especially in warding off future attacks, and for fear that the disclosure of the former illness might prevent the marriage from taking place and consequently endanger the desired result.

If this hope is afterwards disappointed, if insanity breaks out some time after the marriage, and inquiry on the part of the healthy spouse brings the true facts to light, the result is not only a family feud under which the patient suffers severely, but in not very rare cases an appeal to the law that the marriage be declared null and void. The paragraph No. 1334 of the German Civil Code which applies in this connection says: "A marriage may be disputed by the spouse who was induced into it by wilful deception, upon such points as would, had there been a true knowledge of the case and proper appreciation of the essence of marriage, have prevented him or her from entering into that marriage. If the deception has not been practised by the other spouse, the marriage is voidable only if this other spouse was aware of the deception when the marriage took place."

"A marriage cannot be disputed on the ground of deception on matters relating to property."¹

There can be no doubt that the knowledge of a previous mental disease in a person may easily tend to deter one from marrying such a person.

As to the question whether a person insane at the time may contract a marriage, the answer is obviously surrounded by less difficulty than the questions discussed so far.

The marriage of insane persons.—It does not admit of any doubt that this question must be answered emphatically in the negative. This applies, of course, also to those forms of insanity which show themselves mainly as feeble-mindedness only.

As evident and easily-recognized signs of insanity, considerable melancholiac depression and strong maniacal excitement, make it perfectly clear that the patient is incapable of entering

¹The petition for a declaration of nullity of marriage must be presented within 6 months from the discovery of the deception. § 1339.

into any contract and consequently of going through the legal form of marriage, we are here principally concerned with such cases which consist of mental weakness, either in the form of imbecility or in that of secondary dementia after previous functional psychosis or in progressive paralysis or with those cases which exhibit paranoic insanity with repression of the hallucinations, or finally with periodical and circular insanities possessing clear intervals or remissions.

Even in the case of such patients their parents hope sometimes to derive from marriage a beneficial result with regard to the abnormality of which they are aware, though, perhaps, not appreciating its full extent (often enough the severe significance of the mental weakness is misunderstood altogether); with the casual remark "the boy must marry" or "the girl wants a husband," the necessary search for a prospective son-in-law or daughter-in-law is accordingly instituted. Severe disappointment, sorrow and suffering, and occasionally most tragic family calamities are not long absent.

After the wedding, which is very often in such cases arranged with the greatest speed, the healthy husband or wife soon finds out by the close companionship what terrible misfortune has befallen him or her, and the result is frequently enough that the healthy husband who has no prospect of altering his ill-luck gives way to drink, morphinism or commits suicide, and that the healthy wife who is chained to an insane husband, is attacked by nervous disease, hysteria or insanity.

Women who marry while mentally affected experience not infrequently under the influence of the married state, especially under that of pregnancy and the puerperium, a considerable aggravation of their condition; on the basis of imbecility paranoic delusions occur, the former mild course of periodical or circular insanity changes into a severe one, while the remissions or intervals become shorter in duration and less free from signs of disease.

If an improvement does take place in a few solitary cases during the married life, it is usually of a temporary character only, and displaced sooner or later by a further aggravation.

One thing can be said with certainty, namely that if chronic

insanity—and from what has been said above it is only the chronic form which can here come into question—really undergoes a permanent improvement after marriage, this is so very seldom the case and such an exceptional occurrence, that no reliance whatever can be placed upon it in connection with a projected marriage.

The healthy spouse who was truly ignorant as to the disease of the other (and this applies principally to periodically occurring epileptic attacks or periodically manifest hysterical insanity and also to dipsomania, as appreciable mental disorder and paranoic delusions are not very likely to remain unknown after the usual somewhat lengthy period of courting and engagement) possesses in the paragraph 1333 the means by which to dispute the validity of the marriage.

That paragraph says: "A marriage can be disputed by the spouse who in contracting that marriage was mistaken in the person of the other spouse, or with respect to such personal qualities of the other spouse as would have deterred him from contracting the marriage, had he been aware of the real state of things and possessed an intelligent appreciation of the essence of marriage." (The period of appeal to the law is the same as with regard to § 1334.)

The marriage of hereditarians and degenerates.—What has been stated with regard to the prohibition of marriage with an insane individual applies also to such persons whom I have described above as hereditarians and degenerates.

If the usually very considerable and multiple hereditary predisposition is in itself an element rendering the contraction of marriage of doubtful expediency, the degeneracy apparent in the individual and its peculiar psychical phenomena constitute a decided obstacle against the medical consent to such a marriage.

There may be exceptions where a calm and intelligent husband is able to keep within suitable limits the eccentricities of his wife which rest upon the morbid basis of degeneracy, or, perhaps, to check them by continuing to a certain extent the education which was neglected in the parental house; vice-versa

a sensible wife may occasionally be able so to guide and control her degenerate husband as to prevent the abnormal manifestations from becoming publicly known, entirely or partially. But there can be no true married happiness under such circumstances, and especially none of a uniform duration, seeing that the fluctuations in the psychical condition of the abnormal individual which characterise this condition, can only too easily upset the balance maintained with great difficulty and by great exertions by the healthy partner, and that often enough acute mental aberrations supervene on the chronic state. As long as marriage is not regarded as a remedy for the abnormal married partner, but as a means for bringing about and furthering the happiness of both sides, marriage with a degenerate is entirely out of the question. There are no doubt cases where individuals make it the object of their life to devote themselves to the task of rendering others happy while totally forgetful of their own happiness—under such circumstances the objections against the contraction of the marriage will naturally be disregarded, but then it is the duty of the medical man to emphasise distinctly the apprehensions which exist with respect to the eventual progeny.

But often enough all these intentions to sacrifice oneself, to become the life-long attendant in sickness of the afflicted husband or wife, must finally be abandoned, the original energy is frustrated by the absence of all success in the attempted object, by the want of recognition and gratitude on the part of the sufferer, by the cheerlessness and hopelessness of the future.

There can be no doubt, and daily experience confirms it, that where a wrong or imperfect up-bringing in the parental house, where bad company and deficient control have led a young person, and especially a young man, into devious ways, marriage is capable of exercising a most beneficial effect, provided the other partner is possessed of an energetic and intelligent nature and has the necessary qualities to assert his or her influence for the good.

The badly brought-up and misbehaved young girl can under the influence of married life become an excellent wife and capital mother, the loose young man a steady husband and respec-

table paterfamilias. But this fact of the favourable result of marriage must not be generalised in such a manner as to be adapted also to those cases where the deviation from the normal present before marriage is not due to accidental external causes but is organically inherent in the individual; in this latter case it does not matter whether the cause of the mental abnormality lay in the embryo, in disease-producing influences during the intra-uterine life or in processes connected with the labour-act or the subsequent existence.

In none of these cases is it reasonable to expect a cure by marriage; the favourable influences of the same are quite incapable of healing the illness or the morbid inclination; the most they can do is to hide for a time the outward and visible symptoms of the disease.

It has repeatedly been pointed out that by the hereditary predisposition not the disease is as a rule transmitted but only the tendency to it, and the latter manifests itself chiefly by the diminished resistibility of some organ or other, here of the organ of the psychical function.

Marriage in the presence of a nervous disposition.—Where such a predisposition is present, there is required for the production of the disease something besides, namely an injury affecting directly the general condition or the respective organ.

Under these circumstances it is quite intelligible that where on account of the conditions prevailing, the predisposition has not yet led to actual disease, marriage is capable of contributing its share in preventing the outbreak of such disease by keeping away the injuries coming from without.

If a girl hereditarily predisposed to mental disease is removed from the influence of a predisposed or diseased mother, or transplanted from the surroundings of a nervous family into the hands of a sensible man who can understand the peculiar nature of his wife and treat her accordingly, it is quite possible for the predisposition to remain permanently nothing more, and for the disease not to assert itself at all.

But apart from the removal of the psychically unfavourable influences of the paternal home and their substitution by the

psychically favourable ones of the new conjugal home, the unaccustomed physical activity, the assumption of duties hitherto unknown or neglected, have in so far a favourable effect as the former concentration of all the thoughts round the personal ego, which is not infrequently associated with hypochondriac ideas, gives way under the newly-created conditions to a solicitude for others.

Then, again, if the husband who had previous to his marriage led an irregular life in several directions, committing sexual excesses, taking insufficient or unsuitable nourishment, etc., commences, through marrying, to live more regularly in all respects; if marriage means to the wife sexual gratification and the disappearance of former menstrual troubles and consequently more favourable psychical conditions, it is impossible to deny that marriage is from several points of view calculated to retard the development of the predisposition into actual disease.

In opposition to these beneficial effects of marriage, the latter presents, however, injuries, more especially as regards the female partner, by no means insignificant in number.

Sponsalistic psychosis.—In some cases the engagement alone produces a psychosis (sponsalistic psychosis) mostly of a melancholiac or hypochondro-melancholiac character, without there being any reason at all for the depressed mood, the engagement being, on the contrary, a much desired and longed-for event.

The prospective husband is afraid that he will not be able to fulfil his marital obligations, that he is impotent, that he ought not to get married as he has rendered himself incapable of sexual intercourse by masturbation or sexual excesses, that, having been syphilitic, he will infect his wife and bring into the world syphilitic children, etc.

This hypochondro-melancholiac condition is not infrequently associated with severe anxiety, with impulses to break off the engagement and often, above all, with ideas of suicide. Occasionally the dread with regard to the future finishes by pressing the revolver into the hand of the young man, and in a case of my own experience the act of suicide took place dur-

ing the wedding-feast, the sufferer having up to that moment succeeded in repressing and keeping to himself the last consequence of his fearful delusions.

In the young woman the fear arises that she might not be capable to fulfil her domestic duties, she reproaches herself with not loving her intended husband as much as she ought to do, imagines that she cannot make him happy; sometimes it is anxiety and shyness or even disgust at the idea of the coming sexual embrace, or self-reproaches for past masturbation which give origin to the depression in the disposition.

In rare cases conditions of delirium hallucinatorium or of mania occur as a "betrothal-psychosis."

The conditions are generally of a transitory nature, they gradually slacken and disappear as a rule entirely after the wedding.

In exceptional cases, however, a chronic incurable psychosis develops. Once I saw such a "betrothal-melancholia" in a young girl which got cured after 6 months. In the meantime the prospective bridegroom broke off the engagement. Two years afterwards the young girl became again engaged, and again fell ill after a few weeks, this time with symptoms of an hallucinatory paranoia from which she never recovered.

What should be done in those cases where either the prospective husband or the prospective wife is attacked by mental disease?

Frequently the healthy would-be spouse withdraws his promise of marriage.

From a moral point of view it is no doubt reprehensible to break one's word if the other side is the innocent victim of a misfortune, it is an act of cruelty towards the sufferer which is felt particularly keenly where the affliction is recovered from. The step is justified in those cases only where the healthy prospective partner has been deceived as to the past history of the other, as to former attacks of insanity in the patient himself or herself or in his or her parents.

If the patient does not recover, the question with regard to the contemplated marriage is answered *eo ipso* on the principle that an insane person may not marry; otherwise the deci-

sion as to the future should be postponed until the insanity has been cured.

A quiet chat between the engaged couple will then often enough result in the abandonment of the projected union, seeing that even if relapses do not occur the marriage can hardly turn out a perfectly happy one on account of the constantly present dread that a fresh attack may break out at any moment, or that the eventual offspring may inherit the insanity. Such a decision, that it is better not to carry out the intention to become married, will naturally receive the warmest approval of the medical adviser.

If the parties do not, however, renounce the idea to get married, the duty of the doctor is to call attention to the injuries which marriage involves, and by suitable words of advice to endeavour as far as lies in his power to prevent those injuries from exercising their influence, or, if possible, from happening at all.

If I have spoken here of "betrothal-psychoses," it is evident that I do not include in this category those transient humours of a depressive character which appear especially in women, but occasionally also in men, the principal features of which are feelings of doubt and anxiety with regard to the future. These moods often come on during the pre-nuptial period and cannot be described as psychoses.

Sometimes, though, the symptoms of the illness are little marked during the period of the engagement, or they are kept secret by the patients themselves—but under the influence of the physical and mental excitement of the wedding-night the psychosis may break out in a violent manner, in the form of severe terror or even raving madness (post-connubial insanity, *Skæe*).

In the majority of cases which show themselves as melancholia or as hallucinatory delirium, recovery takes place after some weeks, but as a rule not before the lapse of several months.

(It is clear that these conditions must not be mixed up with the quickly disappearing hysterical attacks which occur often during the wedding-night.)

I have myself seen two such cases in women. In both cases

which took the form of a melancholia, recovery occurred after 5 and 6 months respectively. In one of them a psychosis developed again after the first confinement which remained incurable.

Conjugal insanity.—This develops as a rule one or more days after the wedding, but it must be assumed that here too, like in the psychical perturbation during the wedding-night, the beginning of the illness dates further back. Naturally this applies also to the hysterical psychoses which appear at times in newly-married women, but the origin and commencement of which are of much older date.

Psychoses of pregnancy.—The cases of conjugal insanity belong to the rare exceptions, whereas the psychoses of pregnancy and of the puerperium, especially the latter, are observed often enough.

If a psychosis occurs during pregnancy, the question crops up as a rule whether the gestation ought not to be interrupted by the induction of artificial abortion.

Induction of artificial abortion.—Such an induction of abortion must not under any circumstances take place where the disease is not a psychosis, but an hysterical or hypochondriac disposition, although it is just this kind of women who often approach their doctors with the request to free them of their burden. But where real melancholia is present, or an hypochondriac melancholia, or a uniformly persisting extreme and depressive disposition, conditions which not infrequently increase up to raving fury associated with delusions, refusal to take food, and attempts of suicide—in cases of this description the question of artificial abortion must certainly form a subject for consideration.

These conditions begin as a rule with the beginning of the pregnancy, with a dread that the continuation of the same will prove tormentingly painful, that the confinement will not come off successfully, either because a preceding pregnancy was accompanied by severe physical suffering, eclampsia or other affections or because it was succeeded by a psychosis.

These physiological fears which are generally not unjustified on account of former events, grow further in a rabid man-

ner and assume eventually the above-described severe forms of a psychosis.

In the majority of cases these psychoses are recovered from after the completion of the labour or a few weeks later, more rarely before that occurrence, while the pregnancy is still going on; in others they terminate during the gestation by death in consequence of voluntary starvation or through suicide, while in others, again, an incurable insanity develops.

In view of these facts last mentioned, the interruption of the pregnancy appears to be indicated where the psychical depressive condition sets in already in the first months of the pregnancy; on the other hand, it is unnecessary, as a rule, to institute artificial abortion during the latter months on account of the above-described circumstances, because the remaining time of waiting is then so short that there is not likely to be a considerable increase in the danger, and the psychosis often improves soon after the confinement, although it lasts sometimes for a few months beyond it. At all events I regard the induction of miscarriage indicated where there has already been once before such a pregnancy-psychosis.

Favourable as the prognosis of pregnancy-psychosis is as a rule, if unaccompanied by complications, it becomes worse with repeated attacks and the outcome is not infrequently incurable insanity.

The successful abortion which takes place sometimes also without medical interference, is very soon succeeded in a larger number of cases by a recovery from the psychosis; in others, however, the psychosis continues for some months, the artificially produced miscarriage having no influence on the course of the illness; finally, the psychosis may become incurable in spite of the instituted abortion.

Apart from the melancholiac and hypochondriac conditions, the question of the induction of abortion may also require taking into consideration for the same reasons in delirium hallucinatorium, under which aspect a pregnancy-psychosis often appears, and in the very rare cases of mania.

The performance of the operation is, however, possible here in rare exceptions only, as the unrest of the patients will hardly

permit the same to be done in a proper manner and so as not to constitute any danger to the patient.

Epileptic insanity is as a rule just as little influenced on the whole by artificial abortion or premature labour as hystero-epileptic aberrations; it is only exceptionally and when the symptoms are especially urgent (refusal of food, attempts at suicide, severe hallucinations) that the induction of abortion can come into question.

The indication for the institution of abortion can, generally speaking, be derived only from the condition of the mother.

The influence of an insane mother on the development of the child is not established with such an amount of certainty as to supply a basis of conduct for the medical adviser.

Experience teaches that an insane mother may give birth to a normal child and that that child need not necessarily in the further course of its existence be affected by insanity.

This means that incurable chronic paranoia and progressive paralysis, unless the condition of the mother necessitates medical interference, are also excluded as indications for the induction of miscarriage for the purpose of preventing the birth of a child which appears predestined to fall a victim to insanity.

As regards the induction of miscarriage let the often-repeated warning be remembered that the same should never be undertaken without a consultation with one or more colleagues.

Puerperal psychoses.—The lying-in period can constitute the cause of origin of a psychosis in various ways.

A pyrexial puerperal infection, metritis, endometritis, endocarditis ulcerosa, pyæmia can produce an infectious psychosis; preceding alcoholism or morphinism can lead under the weakening influences of the puerperium to a corresponding intoxication-psychosis; women suffering from severe hysteria or epilepsy are liable to be seized by a puerperal insanity corresponding to the character of the respective neurosis.

The first-named infectious psychosis begins as a rule 2-7 days after the delivery, and is very often fatal in its course amid symptoms of meningitis, encephalitis, and capillary embolism.

In by far the majority of the cases, the puerperal psychoses are functional psychoses which take, where there is a predisposition present, especially an hereditary predisposition, an acute course under the clinical aspect of a delirium hallucinatorium (oftenest), of a melancholia, mania or paranoia hallucinatoria.

Symptoms of pyrexia are here either altogether absent or at least devoid of any significance (mastitis, colpitis, etc.). These psychoses occur principally in primiparæ and more often if the first labour takes place at a somewhat advanced age.

The commencement of the psychosis, the premonitory signs of which can generally be traced back to the time of gestation, dates from the first few days or at least the first week of the puerperium.

The prognosis is, if it is the first psychical attack, favourable, and the average duration of this functional puerperal psychosis is between 5 and 6 months.

If there has already been a psychical attack before, and especially if that also occurred during the puerperium, the prognosis is considerably worse.

The psychical disease can, further, form the starting point of relapsing, periodical and circular psychoses or pass into incurable secondary dementia (about 20%).

Lactation-psychoses.—What has been said with respect to the puerperal psychoses applies, on the whole, also to the rare cases of lactation-psychosis which are produced in predisposed individuals, either through unfavourable psychical influences (illness of the child, etc.) or through fatigue (staying up at night, insufficient nourishment).

In the majority of cases this kind of psychosis occurs in the 6th to 8th month after the confinement.

Although pregnancy, puerperium and lactation constitute undoubtedly dangers in regard to psychical disease—but as a rule only where there is an hereditary predisposition—we need not on the other hand entertain any exaggerated fears on the extent of those dangers.

The number of individuals who get attacked is, after all, very small in comparison to the number of pregnancies and con-

finements generally, and the percentage expressed in figures would be a very small fraction indeed, if we possessed any reliable statistics on the point.

To many, many thousands of pregnancies and puerperia there occurs now and then a case of psychosis. But there can be no doubt that a considerable hereditary tendency to mental diseases favours the production of such psychoses in a most striking manner. It has, moreover, been pointed out, that favourable as a first attack is in the majority of cases with respect to prognosis, the issue must be looked upon as serious where the psychosis recurs during pregnancy or in the puerperium, as the danger of incurable insanity supervening is thereby very materially increased. From this, it becomes manifest that the duty of the physician is to exercise his full authority in those cases where there has already been an attack of psychosis during pregnancy or the puerperium, in the direction of preventing further pregnancies, and to point out unhesitatingly the dangers of a relapse.

If the doctor thinks it futile in a given case to recommend the prevention of further pregnancies for the future altogether, he should at least insist in describing the occurrence of conception during the next few years as absolutely dangerous.

If conception occurs nevertheless, the question of inducing artificial abortion will have to be taken into consideration, in agreement with what has already been stated above.

Dangers to the husband.—Compared with the dangers which arise in the married state, through conception, to the female sex, the injuries caused by marriage which may lead to insanity of the husband are far less considerable.

In his case, too, there are no doubt psychoses which break out under the influence of the wedding-night. Thus, I have repeatedly seen severe attacks of delirium tremens coming on during the wedding-night in consequence of the abuse of alcohol at the preceding festivity. Impotence, possibly of a psychical kind, may be the cause in a newly-married man of an hypochondriac-melancholiac insanity. Disappointment in the anticipated married happiness, a bad wife, pecuniary cares and troubles relating to the support of the family, each of these

causes is capable of producing insanity in a man predisposed to it—nevertheless, it is only in exceptional cases that the result is not only sorrow and grief, but also a psychosis.

Inducted insanity.—We must, however, in this connection recall those cases in which the insanity of one of the married partners acts contagiously on the other, producing in the latter a mental disturbance.

It is a well-known psychiatric experience that an insane patient is capable of transmitting his fears, his folly, sometimes even his hallucinations, to another individual, predisposed to mental disease, who is in constant attendance on the patient, nursing him and bestowing upon him great sympathy.

The insanity which arises in the second individual is called inducted insanity (*folie à deux*, *folie communiquée*).

Such inducted insanity is often observed in sisters, twins, mother and daughter, who live together. The contagion extends sometimes to the entire family, and affects even members of the household who are not in any way related to it, such as servants, etc. In such a case we speak of *folie à trois*, *quatre*, etc. There is consequently nothing remarkable if an insane husband infects occasionally his wife, or—which happens by far more rarely—an insane wife her husband. The presupposition is here also, that the individual secondarily affected was predisposed to insanity or, as in the majority of cases, more or less weak-minded. It is as a rule paranoic conditions, especially illusory fears of persecution, religious delusions, occasionally also querulous insanity, which are thus transmitted.

If the melancholia of one of the married partners is transmitted to the other, the outcome is sometimes a terrible family tragedy, such as we read about in the daily newspapers, in which the married couple do not only take their own lives but also those of their children beforehand, in order to save them from an existence which can only bring them misfortune, and remove them out of a "sinful world."

Conjugal progressive paralysis.—Matters are totally different with regard to the origin of insanity in both married partners, where a conjugal progressive paralysis makes its appearance. Here we have not to deal with the transmission

of insanity from one spouse to the other, which seems to be unlikely, seeing that the disease is in exceptional cases only present in both of them simultaneously. The connecting link is here as a rule formed by syphilis. One of the married partners—in most cases the husband—infects the other.

After a number of years the infecting spouse becomes paralytic, and after the lapse of a further interval, not infrequently when the first patient has already succumbed to the paralysis, a similar paralysis develops in the infected partner.

The question remains finally to be answered: What is to be done if one of the married partners becomes incurably insane?

Divorce.¹—If marriage is a tie which compels husband and wife to stand by each other in misfortune also, the fact that one of them is so unhappy as to fall permanently ill should on principle, and especially from the ethical point of view, constitute no motive for the other and healthy partner to separate from him or her.

The circumstances of real life are however often enough more powerful than questions of principle and ethical considerations.

It is especially the conditions among the poorer classes which dictate under certain conditions unrelentlessly the dissolution of the marriage.

The wife is insane in the asylum, the husband engages to look after his children and the household a young woman who soon becomes his mistress, illegitimate children are not long in

¹Translator's note: This portion of the article is of interest to the English-speaking reader merely as information how the question is regarded by the German law. The law of England, Scotland and Ireland and also that of the United States is in this respect totally different. In these countries insanity does not render a marriage void nor is it *per se* a ground for divorce or judicial separation. Cruelty or adultery practised by a husband or wife who is not insane enough to come under the lunacy law and thus to be liable to permanent confinement in an asylum, entitles the suffering spouse to sue for separation or divorce as the case may be. For the marriage of an insane person to be annulled on the ground that he or she was insane at the time of the marriage, the law requires total insanity, and not merely a certain amount of mental disorder, unless undue influence was exercised upon the person in question. See also footnote p. 631.

coming upon the scene and an unpleasant rivalry arises between them and the legitimate children.

Where the husband does not engage such a person, the children often remain neglected and suffer both physically and morally.

If it is the husband who is away at the asylum, the wife is left at home in poor circumstances. Did the law allow her to divorce her afflicted husband, it would be possible for her to marry again and to give her children a bread-winner and guardian.

In the case of well-to-do families these social considerations are to a great extent absent. But even then it is questionable whether it is right to destroy all possible chance of future happiness in an individual whose married partner is so unfortunate as to be incurably afflicted, and by a disease, too, which renders the object and aim of the married state unintelligible or distorted by delusions and hallucinations.

The prohibition of the dissolution of the marriage annihilates every possibility of happiness on the one side without alleviating the misfortune of the other, whereas a divorce would at least enable one of the parties to seek a fresh happiness by which the unhappiness of the other would not be in the least increased.

Before the Civil Code of the German Empire (*Bürgerliches Gesetzbuch*) came into force, insanity was not recognised as a ground for divorce in the districts of the French *code civil* (Rhenish, Prussia, Alsace-Lorraine, etc.) and also in Württemberg, Mecklenburg, Hessen, the province of Nassau, Brunswick, etc., but was regarded as such in the countries of the Prussian law (*Landrecht*) in Bavaria, Saxony, Oldenburg.

The first project of the *Bürgerliches Gesetzbuch* had not included insanity among the grounds for divorce, principally for the reason that the recognition of this cause of dissolution of marriage seemed the more uncalled-for, as in those countries in which it was not recognised, that is in the districts of the French law and of the common law, no practical demand had arisen for it, as far as it was known.

The committee entrusted with the drafting of the *Bürger-*

liches Gesetzbuch did not disregard the fact that in view of the realities of ordinary life, of the economic disadvantages and moral dangers which threaten the healthy married partner and the children, if the former is, on account of the impossibility to dissolve his or her marriage with a person who has become incurably insane, unable to contract a fresh union, there are weighty reasons in favor of recognising insanity as a ground for divorce.

Notwithstanding all this, the point was not conceded, first because of the ethical objections arising from the nature of the marriage-contract, and secondly because the recognition of this ground for divorce would be frustrated by the impossibility to do full and equal justice to the various considerations and interests arising in connection with the matter, and the necessary preliminaries could only be established by making them so elastic that they would be incompatible with, and injurious to, the regard due to the insane married partner, the general welfare and the estimation in which marriage is held.

"Particularly is it impossible to draw a sharp line of demarcation between the various forms of insanity, and practically unrealisable to distinguish those cases in which every moral companionship is abolished by the insanity and the insane partner may be regarded as mentally dead, from other cases."

But the urgent demands of jurists and medical men, and especially of alienists, succeeded in obtaining a recognition of insanity as a ground for divorce in the second project of the *Gesetzbuch*, and that having received the sanction of the *Reichstag*, the paragraph in question (1569) was worded as follows: "A married person may sue for the dissolution of his or her marriage if the other spouse has become insane, if the disease has lasted at least 3 years during the course of the married life and reached such a degree that the mental companionship between the married partners has ceased, and there is no longer any prospect of this mental companionship being re-established."

A divorce on account of mental disease requires therefore:

1. An insanity of a duration of at least 3 years.
2. Such a high degree of mental disorder as to involve the

abolition of all moral companionship between the married partners.

3. The absence of every prospect that this companionship will ever be re-established.

ad 1. The disease need not have originated during the married life, but it must have been present for at least 3 years of such married life.

But it is not necessary that the degree of insanity which excludes every mental companionship should have existed for the whole of the 3 years.

An amendment to that effect brought before the committee on the *Bürgerliches Gezetzbuch* was defeated, and the qualified insanity was declared as being necessary at the time of the dissolution of the marriage only. Otherwise a temporary improvement in the course of the 3 years would necessitate a fresh period of 3 years. Thus the question whether periodical or circular insanity permits under certain circumstances a dissolution of the marriage also receives an affirmative reply.

At all events, the duration of the disease is in every case a subject to be ascertained by the facts.

ad 2. The difficulty of applying § 1569 depends chiefly on the decision of the point whether in a given case the mental companionship has become extinct or not. The legislator has given us no definition of what is meant by "mental companionship" (*geistige Gemeinschaft*), and the commentaries to the *Bürgerliches Gezetzbuch* as well as alienists and the courts of justice have interpreted the term in most variable, sometimes in exactly opposite, ways (See Bresler, *Rechtspraxis*, etc. Halle 1903).

On the one hand it is required that there should be an absence of the consciousness of the existence of the married state, a condition of complete darkness of the mind, complete imbecility, "mental death," in order to prove the extinction of the mental companionship, other decisions have considered consciousness of the existence of the conjugal tie insufficient to prove the presence of "mental companionship."

The *Reichsgericht* (highest court of justice) in a judgment of May 5th, 1902, has declared that "mental companionship"

means a higher companionship than the mere cohabitation of the married partners, namely one in which both are capable of common thought and feeling. If we take this decision as a basis, the extinction of the "mental companionship" will, for instance, have to be taken for granted in a case of chronic paranoia, with retention of the memory and the preservation of outward appearances, including even a certain attachment for the husband or wife, but which presents hallucinatory and delusional features.

In weak-minded persons, too, there can exist such an extinction of the "mental companionship" in spite of the attachment for husband or wife or even the manifestation of fondness towards him or her; the attachment is in this case a "mental companionship" similar to that which binds a faithful domestic animal to its master, but which cannot be regarded in the sense of the law as sufficient for the indissolubility of the marriage.

ad 3. The law does not require the exclusion of every prospect that the disease will be recovered from, but only that there should be no chance of the "mental companionship" becoming re-established. Those conditions which though incurable in a psychiatric sense are yet in so far amenable to improvement as to make "mental companionship" again possible do not consequently fall under § 1569.

Although, in spite of the uncommonly rarely occurring late-recoveries after a 3 years' duration of the insanity, great caution is nevertheless needed with regard to prognosis, there is hardly any likelihood, where undoubted dementia or an irreparable loss of the intelligence and of the memory has set in, or where a mental disorder which has existed for 3 years has led to a morbid transformation of the whole personality, that "mental companionship" will ever be re-established, especially if these conditions have developed and are developing progressively or have remained stationary for years. The answering of the question becomes more difficult if in the course of periodical and circular insanity considerable remissions and even intermissions occur, and also in chronic manias and melancholias without any material impairment of the intelligence. In all these cases, finally, the question whether § 1569 is on a particular occasion

applicable or not will depend upon the previous course of the illness, a careful study of which by a competent specialist will permit a conclusion to be drawn with regard to the future.

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XXIII

Perverse Sexual Sensations and Psychical Impotence in Relation to Marriage

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PERVERSE SEXUAL SENSATIONS AND PSYCHICAL IMPOTENCE IN RELATION TO MARRIAGE

By **Albert Moll, M.D.** (Berlin)

1. General remarks on sexual desire.

Analysis of the sexual instinct in man.—For the better understanding of the importance of perverse sexual sensations to the married state it is advisable to say first by way of introduction a few words on sexual instinct in general.

The sexual desire of man serves to bring the sperm-cells secreted in the testes in contact with the female ovum by transmitting them into the maternal organism as the one in which human impregnation takes place. Two elements are here required: first, the expulsion from the paternal organism, and secondly the introduction into the maternal organism. The first process is called ejaculation and is effected by means of an impulse, the desire for *detumescence*. This detumescence is sometimes the only manifestation of the sexual desire, as for instance in some idiots who practise masturbation as a physical act, because they experience an organic impulse at the genital organs without at the same time thinking of any other person. As a rule, however, the desire for detumescence does not appear alone; it is on the contrary accompanied by a second desire, that for a woman, which impels the man to seek her touch, her embrace and also her moral society. This desire for another individual is called the desire for *contractation*; it also appears, at least for a time, without any other accompanying desire. There are boys who long before puberty experience a desire to touch female persons, to embrace or to kiss them, and in whom

there is not a single thought of masturbation or of any other act on the part of the genitals. But the desire for detumescence and the desire for contractation combine in the sexually mature normal man, and it is this combination which gives rise to the impulse to discharge the semen on touching a woman or on introducing the member into the vagina, in other words, to perform sexual intercourse.

It is only rarely that the desire for detumescence is absent in a man if the genital organs and the general mental condition are intact. The permanent absence of the desire for contractation, that is, of all sexual desire for another individual, is under similar conditions also something exceedingly rare, whereas a false direction of this desire, for instance, the inclination of man towards man, appears more frequently. Occasionally, it is true, the desire for detumescence and that for contractation may exist separately in the same man, at least for some time. One may entertain for instance true love and high regard for a woman without desiring to have sexual intercourse with her, while this desire is directed to other female persons.

Analysis of the sexual instinct in woman.—

In the woman matters are somewhat different. Since the ovum remains in the maternal organism where it becomes impregnated by the sperm-cell, the sexual desire must not lead to expulsion, that is, to the ejaculation of the ovum. A desire for detumescence exists, it is true, in most women, but it only conduces to the discharge of certain mucous secretions, and not of the ovum. A desire for contractation is also present in woman; it corresponds to that in man, only that it is not directed towards woman, but towards man. The two component parts of the sexual instinct, the desire for detumescence and the desire for contractation are as a rule combined in woman as well as in man, and it is from this combination that the desire arises to have intercourse with man. Very often, though, the desire for detumescence is absent in the female sex, and the desire for contractation is present by itself. In such a case, the woman has no desire for masturbation, no desire for sexual connection or gratification from the same, no desire at all for any process whatever associated with the genitals, but there exists nevertheless an in-

clination for the embrace of man and an interest in the latter. Even the highest degree of psychical love for man which rests upon the sexual instinct and represents to a certain extent the most refined development of the desire for contractation, may be present alone. In other cases, the desire for detumescence and the desire for contractation may in women also exist separately; it is possible for instance for a desire to masturbate to be present in a high degree, without a desire for intercourse or gratification from the same, and at the same time the desire for contractation may exist quite independently, leading to physical and moral attachment of the woman for a man.

Quantitative changes in the sexual desire.—

Permanent absence of the sexual desire is designated as *anæsthesia sexualis*. In reality the latter may be said to exist only if both components of the sexual desire are absent, i. e., the organic demand on the part of the genitals as well as the longing for another person. As a rule, however, such cases are also included among those of *anæsthesia sexualis*, where there is no desire for detumescence, and that, as we are aware, occurs in women comparatively often. A lesser degree of sexual *anæsthesia* which is similarly very frequent in women is called *natura frigida*. The increase of the sexual desire is called *hyperæsthesia*; the latter is naturally capable of giving rise to severe conjugal troubles. If it is the husband who is subject to this *hyperæsthesia*, the wife will soon look upon the frequent demands of her partner as cruelty. If the *hyperæsthesia* is present in the wife, even a normal man is sometimes not capable of gratifying her demands. This is particularly the case, if the wife, as happens comparatively often when she is sexually *hyperæsthetic*, is not sufficiently satisfied after coitus and she desires its repetition after very short intervals. The *anæsthesia* or frigidity of the wife may also easily lead to a disturbance in the harmony of the married state on account of the absence of an important exciting element in the husband, namely the sexual irritation of the wife. This explains why many married men look for the gratification of their desire elsewhere, if the wife happens to be of a frigid nature and does not simulate passion as so many of her wiser sisters very often do. Indeed, every pronounced difference be-

tween the sexual desire of the wife and that of the husband is capable of giving rise to conjugal unhappiness, though very often a natural adaptation of the married partners to one another, especially also with regard to their marital sexual requirements, is instrumental in avoiding all unpleasantness. We may also mention that the mutual gratification is in some cases rendered difficult by organic obstacles, as for instance, a disproportion between the member and the vagina.

It is only natural that medical advice should be occasionally sought by married individuals because of the hyperæsthesia or anæsthesia of their own sexual appetite or that of their partners. Among the remedies which are employed to combat the hyperæsthesia, bromine plays the principal part. Other drugs, as for instance camphor and lupulin are also worth trying, and we may say the same of local ablutions of the genitals. It is of the greatest importance to the hyperæsthetic parts to try by intensive occupation of the mind and of the body to divert from them a too great attention to sexual ideas. For the rest, the treatment is, generally speaking, the same for married as for unmarried individuals. The occupation of separate bedrooms may be indicated if close cohabitation produces excessive irritation of the sexual desire of one or the other married partner.

As regards sexual anæsthesia, it is very often married women, or their husbands on their behalf, who have occasion to consult a physician on this account. Drugs are absolutely useless; neither cantharides nor yohimbin has any other effect than a psychical one. For the affection has its seat in the brain, and not in the genital organs. In women who have had sexual intercourse with diverse men, it happens occasionally that they are not anæsthetic in the presence of only one man; it would therefore appear that the degree of inclination plays here a great rôle. For this reason it is only possible to offer the prophylactic advice that those who are about to marry should consider well whether they love one another, and particularly whether a sexual inclination is present or not. The absence of the latter is occasionally responsible for the sexual anæsthesia of the wife, although gradual habituation is capable of exercising here also a favourable influence, as it often does in other matters.

As regards man, it is necessary to separate from the above-mentioned sexual anæsthesia those cases in which the normal heterosexual imagination is in consequence of sexual overindulgence no longer capable of producing erection. This is seen in persons who have practised masturbation to excess, in debauchees who have worshipped too much at the altar of Venus and thus become, perhaps, accustomed to unnatural and perverse excitations. The normal psychical irritation (the ordinary mental representation of woman) is no longer sufficient to accomplish the changes preparatory to coitus, and especially erection, while the desire for coitus may remain undiminished. A similar occurrence may also take place in some women, particularly in those who have masturbated severely. They experience a desire for coitus, but that desire is no longer capable of affording a sensation which suffices to cause them gratification.

Striking manifestations of the sexual desire.—

We need not necessarily regard a case as pathological if the desire for coitus with a certain woman is absent. Apart from the individuality of taste in general, we must rather consider that we cannot speak of a morbid condition where the outward charms are not sufficient to excite the sexual desire. If the assistance of the physician is therefore invoked by a man who for material reasons has married a rich and decrepit old woman, the absence of the libido and the consequent impotence need not cause any surprise, since certain female attractions are required for the production of erection and ejaculation. The surprise is rather that in spite of the absence of almost every visible exciting element which some of these cases exhibit, there should be any virility at all, such as is often enough observed, though it does not by any means follow that this virility is here a morbid symptom.

Altogether we must not be too rash in speaking of something morbid, if the sexual desire assumes a peculiar direction. If a young man belonging to a better-class family suddenly falls in love with the old and wrinkled cook of the household and is determined to marry her at all hazards, if a dashing young officer marries one day a prostitute who has gratified the sexual

pleasure of all his fellow-officers, the lay public is wont to assume something morbid or even a touch of insanity, while the psychiatrist will not be satisfied with such an assumption from the striking manifestation of the sexual desire unless there are also other sure signs of psychical disturbance. To the same category belong also the extraordinary passions of women, as for instance the cases of ladies of the highest nobility who fall in love suddenly with their coachmen, or where ladies persecute with passionate proposals negroes or other exotic strangers. Nor can we consider as pathological for no other reason those men who in their riper years experience a love-passion which had not hitherto been observed in them and which, if they are married, causes them to neglect wife and family. We should sooner include in the domain of pathology those men, called by *Fürbringer* relatively impotent, who become gradually colder and colder towards their wives until they are one day perfectly impotent in the presence of the latter, despite the full retention of their physical and moral charms, while they continue capable of having erection and ejaculation only in the presence of other women, frequently enough, common prostitutes. *Krafft-Ebing* reckons among the morbid cases also those married women who after having for years loved their husbands and faithfully performed their conjugal duties are suddenly seized with a passion for some entirely unworthy individual into whose arms they throw themselves unreservedly. In agreement with the general sexual anæsthesia of woman the sexual factor may fall back here too; the woman simply desires to possess the man in question, to be together with him. *Krafft-Ebing* emphasizes the episodic character of such an inclination, which sometimes disappears entirely after a few months or even weeks, making room again for the normal married life.

So as not to extend our remarks unduly, we will not further concern ourselves here with the last-mentioned cases of striking infatuation—be they morbid processes or not. They are capable of causing great perplexity to the physician consulted with regard to them. The attitude he should assume will partially be made clear in the observations I will make later on on sexual perversions. Here I will only mention that hardly ever results

are obtained from the remedies employed in such cases by the relatives, who generally believe that they can dissolve such entanglements by reproaches or good advice, a procedure which seldom does any good. Reproaches will hardly ever help to bring about a satisfactory settlement of such occurrences; diplomatic steps are far sooner calculated to achieve the desired end, and in these the physician as such will seldom be called into requisition. A very desirable arrangement is a lengthy separation such as can be obtained by travelling. Confinement in a lunatic asylum which was resorted to in several cases known to me, is from the ethical standpoint scarcely defensible, seeing that such cases do not after all represent insanity of a nature dangerous to others.

Perverse sexual desire.—As the normal sexual instinct creates a longing for the opposite sex, we speak of an heterosexual desire or of heterosexuality. There are, however, cases where the sexual irritation is called forth not by the opposite sex, but by the same sex. In other words, a man gets excited by another man, and a woman gets excited by another woman. This condition is called *homosexuality*. Some are susceptible to the attractions of both sexes, which means that they combine homosexual and heterosexual feelings in such a manner that sometimes the one kind and sometimes the other prevails. Such cases are designated as psycho-sexual hermaphroditism. There are, further, cases where the sexual instinct, though it impels man to seek woman and woman to seek man, yet does so not for the purpose of normal sexual intercourse, but for perverse sexual acts. In these cases the infliction of pain plays an especial part. Thus the man is sexually excited by the ill-treatment, humiliation and suffering of the woman, and the woman by similar endurance on the part of the man. We call these cases *sadism*. Then there are cases where the impulse is to cause pain not to the other person, but to subject oneself to such pain or degradation and to produce in this way gratification of the sexual desire. This condition is called *masochism*. In other cases, again, the desire is not directed towards an entire person of the opposite sex, but to one particular part of the body or to an object belonging to the same; thus for instance a man may get sexually irri-

tated through articles of underclothing belonging to a woman. These cases fall under the category of *fetichism*.

All these conditions in which the sexual instinct presents a qualitative modification are called also paræsthesias of the sexual instinct, perversion of the sexual instinct, perverse sexual instinct or perverse sexual sensation.

Sadism, masochism and fetichism may also be associated with homosexual feelings. A female person may for instance experience a particularly strong pleasurable excitement from the ill-treatment inflicted upon her by her female paramour.

Undifferentiated sexual desire.—According to *Dessoir* the development of the sexual instinct takes place in two periods: that of the undifferentiated and that of the differentiated sexual desire. In the first stages of the awakening sexual sensations the sexual desire may deviate for a longer or shorter time while seeking for something unknown, so to say, and seize the very first object which happens to be in the immediate proximity. The passion of a young girl in a boarding-school may for instance be directed towards one of her fellow-pupils, towards one of the lady-teachers, or an actress; but it may also be an artist living across the way who is the object of her desire; indeed, even animals may in the male as well as in the female sex form an object of passion at the commencement of the sexual development. Accident appears to play here a very important part. The undifferentiated sexual desire accounts for numerous intimate friendships, such as we often see between boys and girls at the time of commencing puberty. They reveal to the experienced observer such a mass of blended sexual sensations that it is impossible to deny their sexual basis. The situation is alike in both sexes, the difference is only that in the male sex homosexual acts occur far more frequently than in the female, because in many female persons not only the differentiated heterosexual desire that appears at a later stage, but also the undifferentiated one manifests itself more in the psychical domain than at the genital organs. But it is possible even at the period of undifferentiation for most violent outbreaks of passion to occur. In boarding-schools it very often happens that two girls become attached to one another psychically and occa-

sionally also physically, and that a third girl who is desirous of becoming intimate with one of them is regarded by the other with such hatred and jealousy as cannot be surpassed by the heterosexual love of adults. Later on, the undifferentiated sexual desire disappears. With puberty developing more and more there ensues under normal circumstances in males a powerful desire for female individuals and in females one for the male sex. It is, of course, possible on the one hand for the undifferentiated sexual desire to make its appearance already before the commencement of physical puberty, and on the other it may remain in existence for many years after the completion of the physical puberty. There are cases where it does not begin to subside gradually before the age between 20 and 30. I am not quite sure whether there is a period of undifferentiated sexual desire in all individuals. That in persons whom we must consider as normal and healthy, it can exist and last for some time, I am not disposed to doubt. The acquaintance with these two periods of the sexual instinct is necessary, because a prohibition of marriage, while justified on account of permanent sexual perversion, is not justified on account of temporary perverse sensations resting upon the undifferentiated sexual desire.

Importance of medical advice at the marriage of perverse individuals.—The study of the sexual perversions is comparatively new, and it is not long since not only the lay public but also the majority of the medical profession were without any knowledge on the subject. The comprehensible disinclination of the patients to disclose to their medical advisers a perversion of the sexual desire, was the cause of the latter groping about in the dark with regard to each individual case as well as with regard to the subject as a whole. And so it came about that when consulted by such people, doctors were too ready to recommend them to get married. Of the misery which has thereby been caused hardly anything has become public property, but it is necessary to point out the serious consequences involved in such an advice. It is certainly true, as we shall see yet, that habituation plays a great rôle in the married life not only of healthy people, but also in that of perverse indi-

viduals: what is at first repulsive and instrumental in preventing erection and ejaculation in man, may in time by familiarity lose its forbidding character. But the probability of such an issue is often so slight that one is not justified in incurring the grave consequences associated with a recommendation to marry. The responsibility being so great, it is therefore the duty of the physician, when consulted, to withhold his opinion until after he has examined the patient and the circumstances connected with the case most carefully and exhaustively.

It need not be supposed that it is superfluous to enter into a discussion on the marriage of sexual perverts, because perverts refuse to have normal sexual intercourse, and do not consequently wish to get married. For many homosexuals embellish their propensity with the assertion that it is not a morbid one, that nature's intention is to produce by homosexuality the unfruitfulness of certain individuals and the extinction of their race, that nature does not wish all men to procreate descendants, and that she renders some human beings incapable of propagation just as she does with a number of bees. I do not wish to argue minutely that the whole of this reasoning is nothing but a fallacy, since what applies to animals does not necessarily apply to human beings, and since the circumstance that nature must have had some definite purpose in view when creating homosexuality does not exclude the notion of its morbid character. To go into more details respecting this point would be superfluous, as the fact is that there are homosexuals and other perverts who do not marry.

The motives inducing perverts to marry.—

Of course, many of these never think of consulting a medical man before their marriage. The majority have motives for getting married which are of far greater importance to them than considerations of their own health, of that of their partner or offspring. Influenced by selfish motives, they marry, heedless of the severe results which their perversion is capable of producing. Some do not feel disposed to miss the opportunity of improving their material position by a rich marriage, others may be impelled by passionate love: take, for instance, the case of a man who has sexual sensations for both sexes, who is in

other words a psycho-sexual hermaphrodite, but who suddenly falls passionately in love with a girl, whom he marries without considering whether his homosexual propensity is a contra-indication to marriage or not. Or take another case: There are men who are sexually excited only by women with masculine qualities or even by homosexuals only. Such a man is easily deceived by the passionate love which binds him to an homosexual woman, and if this woman, in spite of her sexual disinclination towards the male sex, marries for material or social considerations, most calamitous results may arise from that marriage. Women also marry for the same selfish reasons as perverse men. An homosexual woman whom her husband divorced after 8 years of married life declared to me: "I married, because it would have been very unpleasant to me to remain an old maid" —a motive, by the way, which very often impels even non-perverse girls to get married. Others look upon family life as something desirable, and there are homosexual women particularly, who long for motherhood. There are further cases where, in spite of the absence of all inner desire to get married, marriage is nevertheless contracted for certain definite reasons. In noble or dynastic families, for instance, this is done to prevent the extinction of the line; in other cases material considerations make marriage a desirable step; one of the most important motives is, moreover, the desire of individuals who have brought upon themselves the suspicion of homosexuality to rehabilitate themselves, so to speak, by the contraction of a regular marriage. They forget or wish to forget what fate they create thereby for themselves, their wives or their eventual offspring.

From all this it becomes evident that there are numerous motives for the marriage of sexual perverts, and such people will only in very rare cases try to obtain beforehand proper medical advice. But even when such candidates for marriage do consult a doctor before the consummation of their design, they do so very often not for the purpose of eliciting an unbiased professional opinion. Experience teaches, rather, that their object is to lull their own conscience and that they desire to make use of a medical man as an instrument in that direction. Such patients do not wish to hear what the best course would be

from the standpoint of hygiene and morality, so they try to prejudice the doctor in their favour as much as possible and to extract from him that advice which is to them the most agreeable one. If the doctor's opinion goes the other way, fresh motives are adduced again and again, in order to cause him to change his mind, particularly with the object of inducing him to give his consent to the marriage.

Self-deception of perverts.—How much some patients of this class like to deceive themselves is seen especially in the way in which they very often admit the perversion only when driven into a corner. They are wont to present themselves before the doctor in the first instance on account of their impotence. They tell everything; admit previous masturbation and other sexual transgressions. But they omit to mention the principal thing, they are silent on the real cause of the impotence, i. e., the perverse sexual sensation. Misled by a false sense of shame they try to convince themselves that it does not matter very much, and unless the doctor of his own accord puts direct questions tending in that direction, he generally remains ignorant as to the true state of affairs. He will most likely in such a case diagnose a neurasthenic or psychical impotence, while in reality it is the perverse sensation which is at the root of the matter. For this reason it is imperative for medical men to ascertain by careful questioning in every case in which they are consulted on account of impotence, and particularly if their opinion is sought with regard to the point of marriage, the minute details of the character of the sexual desire. This applies equally to masturbation. Just as it was usual formerly not to examine minutely into the causes of impotence, so it was also with regard to masturbation; they used to prohibit it, and in any case to recommend coitus or marriage. At the present day, however, we always inquire into the cause of masturbation, and we very often find that perverse sexual sensation is at the bottom of it. For if a man cannot possibly obtain the gratification adequate to his desire, he tries to supplement it by masturbation. Without telling the doctor about the perversion, some patients solicit his advice with regard to masturbation in which they suspect an obstacle to marriage, and it is therefore

necessary in these cases also to investigate closely into the character of the sexual instinct. As the sexual perversion of the wife is also of great importance in the married state, it is often advisable to ascertain the respective conditions in the young girl. That great tact is required in a matter of this kind, goes without saying. And that many a young girl would sooner tell the truth if left alone with the doctor than if her relatives were present at the consultation, is a well-known experience. As a very useful means for finding the right track I may mention the inquiry into erotic dreams: normal sentient individuals have normal erotic dreams, those who are perverse are also visited in dreamland by perverse representations. Often enough the doctor gets to know something of this perversion when it is already too late, and when conflicts have broken out in a marriage which had been entered into without proper medical advice. This happens far more often than one would judge from what is publicly known. The milder forms of perversion remain a permanent secret so that neither husband nor doctor gets to know anything about them. It is therefore totally impossible to estimate the number of individuals who are affected with slight perversion. In the severer cases, however, conflicts become unavoidable, and these are often of so serious a nature that the assistance of the doctor must finally be requisitioned.

That sexual perversion does not frequently form a subject of medical consultation with regard to marriage is naturally due to a great extent to the sense of shame which forbids a confession. Sexual perversions are always abhorred by the public or at least regarded with contempt. And besides, there are few spheres in which prevarication and insincerity are so rampant as in that of the sexual life.

Difficulties in the diagnosis of perversion.—

We must also bear in mind that in most of the other affections which play a part in the subject of marriage, f. i. venereal diseases, tuberculosis, heart-disease, etc., etc., there are objective and recognisable symptoms. In this instance, however, we have to deal with an affection of the instincts which can only become manifest by communications on the part of the pervert, unless

the physician happens by some accident to be aware of his patient's perverse intercourse, and thus in possession of knowledge calculated to lead him on to the right course. If the father of a young girl desires to be informed as to the state of health of his future son-in-law, and both have agreed upon the medical man to be entrusted with the task of conducting the inquiry, such medical man cannot, though he be a most able practitioner, detect by the minutest examination any sure signs which would point to sexual perversion, even if the latter is present in its most pronounced form. Because the cases in which physical qualities of a nature contrary to the respective sex are present in association with homosexuality, *f. i.* female larynx, female development of the breasts in man, are relatively very rare, quite apart from the circumstance that the presence of such a symptom is no proof of the existence of homosexual sensations. Other qualities, the magic look and other distinguishing signs by which some still maintain that they can recognise homosexuals, belong to the fairy-tales of which the world of the perverts has so many. At all events it is advisable that the relatives of young girls should not place too great reliance upon one apparent good quality in the intended husband, namely his severely moral life. It does happen occasionally among young men that the one or other attracts attention by his complete abstention from all intercourse with the female sex, gaining thereby the reputation of being an extremely chaste young man. But how very frequently such chastity is the covering cloak of a perverse intercourse practised with the utmost secrecy, is well known to the expert. For this reason it is as well that the friends of marriageable girls should be advised to be on their guard not only with respect to such men as are known to be leading a disreputable and immoral life, but also in regard to those who make a show of their immaculate morality.

Of course, it is not to be expected that future parents-in-law will often discuss with their future sons-in-law the latter's sexual proclivities. For are there not people who consider it even unseemly that the father of a young girl should ask her intended husband about the state of his health? They think very likely that the ideal relationship which rests upon love would thereby

suffer degradation. Such objections must not, however, be taken too seriously. Seeing how often father-in-law and son-in-law have a free interchange of views as to the material foundation of the future marriage and particularly also with regard to the sum to be contributed by the former towards this object, there surely cannot be anything very derogatory in a serious conversation on the state of health of the parties contracting the marriage. And if we bear in mind that the perversion of the sexual instinct is of very frequent occurrence, and that it is just now the subject of extensive researches, we cannot from the moral point of view find anything objectionable in a conversation relating to the sexual instinct, any more than in the question whether the candidate for marriage is syphilitic or not. It is not morality which decides on the propriety of such discussions, but conventional customs, which are often, however, apt to change rapidly in deference to the dictates of science. A consideration of the connection between marriage and sexual perversion is therefore not useless as there may be some who will let themselves be guided by it, and their number will probably increase in the future.

At any rate, the dangers which sexual perversion causes to the married state are sufficiently great to warrant their detailed examination. The significance lies in several circumstances. In the first place the virility of a man may become diminished or get lost entirely through a sexual perversion. Secondly, it is possible for sexual perversion to render intercourse so unbearable for the wife that she may decline to practise it altogether. The relations between the married partners suffer not only on account of the differences which ensue immediately from the prevention of copulation, but thirdly also by the absence of the normal moral basis of the reciprocal relationship. Fourthly, sexual perversion leads not only to masturbation, but also to extra-nuptial sexual intercourse. Fifthly, social or legal disagreeable results may arise by the perversion leading to criminal or otherwise objectionable actions; and finally there may occur injuries to the offspring, partly in the shape of hereditary taint, and partly in the shape of unfavourable impressions created by the disturbed married state of the parents or by the

general behaviour of the sexually perverse father or sexually perverse mother.

2. *Homosexuality.*

In examining the relations between the married state and sexual perversion it seems advisable to consider first the subject of homosexuality, as many things will thereby become clear in regard to the other perversions.

Influence of marriage on the disappearance of homosexuality.—Let us see first whether marriage is capable of contributing to the disappearance of this sexual perversion. There can be no doubt that occasionally this is the case. Like upon so many other inclinations and propensities, so upon the sexual instinct does habit exert an influence, and not only upon the normal but also upon the perverse. It must not be argued that perversity is a consequence of congenital predisposition and that a correction by influences is therefore impossible. Despite the circumstance that a number of authors deny this supposition and that they always find the causes of perversion in influences acting in the course of life, it is an established fact that even congenital qualities can be influenced by actions operating after birth. Even the growth of parts of the body, although it tends in certain directions on account of congenital dispositions, can be artificially altered. I will merely mention here the mutilation of the feet in Chinese women, and the displacement of the liver in consequence of tight-lacing. And just as it is possible to modify congenital physical tendencies, so we can do the same with congenital psychical dispositions. If we suppose therefore that in a certain case there exists an innate inclination towards one's own sex, it does not at all follow that it is not possible to eradicate it by influences during life, for instance by permanent abstention from homosexual attractions and permanent action of heterosexual excitation.

It is necessary to emphasize this sharply, and mainly because it is absolutely denied by some people. It is particularly those who agitate in favour of declaring homosexual intercourse unpunishable and deserving of social equality, that insist upon

the impossibility of altering the homosexual sensations. They seek in this way to advocate the view of the innateness of homosexuality, or in other words, its freedom from self-blame, and secondly to demonstrate the futility of punishing the intercourse for the purpose of correction. But we may just mention, by the way, that one can arrive at the same conclusions even if one attributes a certain effect to the influences of everyday life.

Whether we regard therefore homosexuality as congenital or not, we are bound to admit that influences during life can play an important part in the eradication of the perversion. Among these influences we must also include in particular the frequent impression effected by the attractions of the other sex through intimate companionship, through physical and moral association. Sometimes the homosexuality disappears spontaneously through the action of such heterosexual excitations. Numerous cases of passionate girl-friendships of a sexual, that is of course homosexual, character prove this. No matter how great the passion may be, and no matter how violent the jealousy in connection with it; the whole relationship may become dissolved by the arrival of a man upon the scene, and make room for an heterosexual attachment. Few influences of life favour the development of homosexuality so much as prudish separation of the sexes during maturing youth, and we may say that this applies to boys as well as girls. Permanent fellowship with a person of the opposite sex is even far more capable of causing the disappearance of perverse inclinations than occasional association. It is true that later in life when the homosexuality is fully developed and after it has existed for many years, such a favourable issue will not take place easily, but in younger people it is quite possible to look for a complete extinction of the perverse desires under the influence of habituation to the attractions of the other sex. Girls have in so far the advantage over young men that they marry as a rule much earlier than the latter, who for social reasons do not generally enter the matrimonial state before they have reached an age at which it is hardly possible to expect a transformation of well-marked homosexuality.

The less pronounced the sexual perversion, the easier it is

to remove it, and the more favourable the effect of marriage. There are cases of psychosexual hermaphroditism which manifest sometimes a preference for the same sex and sometimes for the other, and where opportunity exclusively plays a part. It is clear that just in these cases marriage is most likely to act beneficially. Nevertheless the favourable effect is sometimes absent altogether. I know a married couple where the husband entertains the most sincere affection for his wife, whom he cherishes in every respect and with whom he has normal sexual intercourse, and who nevertheless experiences homosexual desires as soon as he meets accidentally a type of man which appeals to him sympathetically. It is therefore necessary to ascertain if possible in the first instance when the question of marriage crops up, what influence female attractions have on the disappearance of the homosexual inclinations. But for this purpose it is hardly necessary, I should like to observe, to institute the brothel-treatment so eagerly recommended by some. The self-observation of the man during his platonic intercourse with the female sex is generally of greater value than experimental coitus with prostitutes. Successful copulation does not prove the real existence of the susceptibility to the attractions of woman, which is one of the preliminary conditions of marriage, and on the other hand impotency in the presence of a prostitute is no evidence that a respectable woman would not produce in the man in question sufficient sexual excitation. It is the business of the experienced physician to find out by questioning the candidate for marriage whether the heterosexuality suffices to allow him to get married.

There are, further, many psycho-sexual hermaphrodites in whom homosexual inclinations arise only if they have not practised heterosexual connection for a long time. So long as the man has regular intercourse with woman, there is no sign of homosexuality. It is obvious that the accumulation of semen is in these cases a preliminary condition of homosexual sensation, which is therefore eliminated by regular heterosexual intercourse. Under such circumstances, menstruation, pregnancy and the puerperium as well as illness of the wife may become sources of danger to the husband if he is thereby prevented

from banishing his perverse desires by regular intercourse with the wife. We must not forget however, that after all, the same objections, though they be of an heterosexual character, arise in regard to the married life of normal individuals, if the wife is prevented from having sexual intercourse by the above-mentioned conditions. Sensible practitioners have therefore long since come to the conclusion that the systematic advice given sometimes to married women to avoid all sexual intercourse, for instance, during pregnancy, is fraught with the greatest dangers, and that it is necessary in individual cases to weigh the risks which such advice involves in the direction of inducing the husband—or even forcing him—to seek sexual intercourse elsewhere than in the conjugal bed. (Compare with p. 225, etc.)

To illustrate the influence of marriage on the attempt to eradicate homosexuality, attention has been called to the not very rare occurrence of homosexual intercourse among Catholic priests, for which celibacy has been made responsible. The matter is, however, not quite so simple, and with regard to some cases, perhaps, that Catholic priest is right who tries to explain the situation otherwise. He thinks that male homosexuals distinguish themselves already in childhood by their female qualities; since clinging affection is one of the latter they soon attract the attention of the priests by making themselves useful to them, a circumstance of particular utility in the Roman Catholic Church-services. As a consequence they would come in contact with the priests at an early age and be influenced by the latter in the choice of the ministry as a profession. Even if we admit unhesitatingly that this explanation is acceptable in many cases, it cannot nevertheless be denied that the separation from the other sex favours homosexuality, and that association with the other sex has an opposite effect. Experience also teaches that constant fellowship of persons of the same sex to the exclusion of the other sex, induces to homosexual intercourse such persons as would not under other circumstances have recourse to it. I may mention for instance the homosexual intercourse on board ship during long sea-voyages. This also tends to prove that marriage may be a favourable factor in the repression of homosexual inclinations.

Of course, the effect of habituation cannot always be foretold with certainty, and we must remember that it may also lead to indifferentism. The above-mentioned cases of relative impotence of some husbands in the presence of their wives point that way. Nevertheless, we can find in habituation at least a material aid in the development of heterosexuality, and I consider therefore a prolonged platonic companionship between the homosexual individual and a female person a desirable experiment if we wish to estimate correctly the value of habituation in any given case.

Prognosis of homosexuality in the married state.—The constant favourable action of habituation with heterosexual excitations will as a rule be most powerful where there are no other morbid symptoms or hereditary predisposition present. This is therefore a point worth remembering, and in addition to the circumstance that the offspring is also subject to danger (an item to which we shall soon return) great importance will have to be attached from this standpoint to hereditary tendencies and the general physical and moral constitution.

As regards the male sex, the question is also important whether the homosexual attraction is exercised by younger or older individuals. We can distinguish 3 groups: excitation by completely mature men, for instance those of about the age of 20; secondly, excitation by half-adults between the ages of 15 and 20, and thirdly the cases where the excitation is produced by immature boys. There are, of course, also transition stages between these three groups. Only in the first group can we speak of a real inversion, of a transformation of the sexual instinct, since it is only the man who feels here like a mature woman whose sexual feelings are excited by a perfectly developed man. The sexual excitation by unripe boys is from a social and forensic point of view far more serious than the excitation by grown-up men. For although § 175 of the German Penal Code punishes all unnatural prostitution between persons of the male sex, most of the acts performed between men belong nevertheless not to the class of unnatural prostitution but to that of infamous actions, that is, they are not punishable according to § 175. On the other hand, sexual actions with boys under

14 years as well as with girls under that age are punished with penal servitude (*Zuchthaus*) even if they are only of an infamous character; among such is included the mere touch if it takes place for the purpose of creating sexual excitation. To that extent sexual excitation by boys is far more serious than that by men; but from the medical and psychological stand points the cases which are forensically the severer are to be regarded as the lighter. Boys are far more like women than they are like grown-up men; the sexes which comparatively resemble one another up to puberty become afterwards more and more distinct, but in such a manner that the woman retains through the delicacy and softness of her skin as well as in her entire nature a far greater resemblance to boys than do grown-up men. Hence experience shows that there are quite a number of men who, though they generally feel sexually excited in the presence of mature women, do nevertheless occasionally, and almost episodically, undergo the same excitation by immature boys. And although it is but natural that the enormous social and medico-legal dangers must be taken into account when the subject of marriage is under consideration, there is on the other hand a favourable factor in the circumstance that such men are more likely to become attached to a woman and to become habituated to her, than one who finds himself attracted by adult men, who, in other words, suffers from sexual inversion.

Impotence of homosexuals.—The foregoing observations appear to explain the favourable influence of marriage over some cases of homosexuality. But though marriage improves sexual perversion in a few cases, it cannot be denied that it not infrequently reacts unfavourably on both partners. The pronounced homosexuality of the one partner creates unnatural and unhealthy conditions; the homosexual man is very often impotent towards his wife; neither erection nor ejaculation can take place. Under ordinary circumstances impotent towards women, he places reliance, when getting married, on the hope that he will succeed in creating virility by artificial means, for instance, by imagining during the attempt at copulation that he is having intercourse with a man of whom he is fond. Apart from the immorality surrounding such intercourse which can

only take place by means of phantastic pictures, and in which the wife is most woefully deceived, there is to be added that such an artificially exercised coitus leaves almost invariably behind it a feeling of lassitude and weakness, and that it is not accompanied by a feeling of satisfaction such as is caused by normal intercourse. In other cases manual friction is resorted to in order to bring about erection. Very often this fails in attaining the desired object, and in any case it is not difficult to imagine what sort of sexual cohabitation that is which requires such adventitious aids for its performance. Some try to enhance their virility by the use of alcohol, a proceeding which, besides being totally unreliable, can certainly not be looked upon as proper. Coitus practised by means of these artificial measures has correctly been described by a pervert as "onania per vaginam." It may not only produce a temporary feeling of faintness, but the continued artificial irritations may become causes of disease and bring about a severe functional affection of the nervous system. In many cases the horror at being touched by a female is so intense that erection cannot be produced by any artificial means whatever; the wife is tortured for hours together, and the individual in question is probably proud in the end if he achieves his object at all. We must not lose sight of the fact, that notwithstanding the frequency of sexual anæsthesia in women, many of those who are married have a craving for coitus from which they expect gratification, and that where sensuality is strong it cannot be immaterial for the nervous system whether this satisfaction is obtained. Have not some gone even so far as to suggest that the reason why so much hysteria is seen among the nuns in convents, is partly because they miss the gratification of the sexual desire? But even if we do not admit this to be correct, the situation is, indeed, very serious if the wife is brought to the highest point of excitement by the exertions of her husband without her experiencing any sense of orgasm. Such an excitation without gratification represents a severe injury to the nervous system. The more sensual the nature of the wife, the more serious will be the consequences, and though it may be from an ascetic point of view praiseworthy conduct on the part of the wife not to insist on her rights, the

causation of sexual excitement without the necessary gratification is from the hygienic standpoint most decidedly reprehensible. That the marriage of homosexuals is frequently dissolved after a short duration, cannot under such circumstances cause us any surprise.

The danger of impotence is especially great in the presence of a virgin, since the defloration requires here a much higher degree of erection than the introduction of the member into the vagina of deflowered women. The fear of the first night causes therefore to many homosexuals the greatest anguish. Perhaps, against their will they have been forced by their relatives into an engagement to marry, their renewed protestations were met by repeated attempts at persuasion, until they were obliged to give in, with the greatest reluctance they became betrothed, and now shortly before the approaching marriage they have to pretend that they are happy. The dread of impotence, the sense of shame, and everything connected with the miserable business, can lead to most disastrous results, and cases are known to me in which suicide immediately before or after the marriage ceremony, was due either with certainty or with the greatest probability to this feeling of terror. The cause of suicide was a mystery to the nearest relatives; but the details which became known afterwards through a few of those who were initiated in the affairs, or by letters left behind, left no room for doubt as to the real cause of the self-destruction. In other cases of which I know, where homosexuals married without, or contrary to, medical advice, cohabitation became possible only after an operative rupture of the hymen by the surgeon's knife. I have myself recommended this procedure several times after having been in consultation with both parties. Although it is not permissible to induce the wife to consent to this operation by means of false pretences, such an interference seems to be perfectly justified if the wife agrees to relieve the impotence in this way. As a matter of course no doctor has a right to inform the wife that homosexuality is the cause of the husband's impotence, unless he has the latter's full permission. I do think, however, that the best course for a medical man to adopt under such circumstances is to refuse to have anything

to do with the case, if his interference demands on his part any deception of the other partner. He may offer his assistance only on the understanding that he be relieved of his obligatory silence towards husband or wife respectively, and that it should be left entirely to his discretion and judgment to refer only to what he considers necessary.

It is, of course, necessary to consider not only whether the individual in question is potent at all or not, but also the extent of such potency. The strength of that potency ought in a husband, under circumstances of harmony, to be equal to the sexual requirements of the wife, or at least not materially unequal to them. In this respect, however, a great deal must be left to accident. With the exception of a few rare cases, it is under our present customs as a rule impossible to obtain an inkling before marriage as to the amorousness of female persons. And yet there can be no doubt that the unhappiness of many a marriage arises from the want of correlation between the two parties. All those outward signs, by which over-clever individuals pretend to be able to tell the amorousness of females, the look, the shape of the nose or mouth, are of no value. I know women who on account of such external distinguishing marks are reputed among their male acquaintances to be extremely sensual, and who do not possess the slightest trace of libidinous propensity. We must therefore, in considering the demands made upon the virility of the husband, take the average woman as a basis. If the presumption is, that he is only capable of performing the sexual act with difficulty once in two weeks or so, he should be dissuaded from marrying, as otherwise serious conflicts are sure to break out between the married partners within a short time after their union. These will occur even if the wife has no particular desire for coitus, but is anxious to practise it either because she is longing for maternity or because she wants to become practically acquainted with the great unknown act. Some wives demand sexual intercourse principally because they believe that they control their husbands in this way and because they wish to reassure themselves as to their husband's fidelity. But no matter whether intercourse is desired for sensual reasons or on the strength of calculations,

we must not advise marriage to a man with markedly reduced virility any more than to one who is completely impotent, if a pronounced perversion is responsible for the diminution in the potency. For although habituation may in younger people and in lighter cases play a considerable part, it is not so effective as to give us cause to expect a transformation into heterosexual intercourse of the pronounced inversion of the sexual desire in a thirty-year-old man, by means of permanent cohabitation with a woman. Those cases are probably most unfavourably situated where at the same time the other psychical qualities of the individual are developed contrariwise to the sex, in other words where a man behaves more like a woman, or a woman like a man, where occupation and inclination correspond entirely to those of the opposite sex.

Homosexuality of the wife.—From the purely physical point of view homosexuality of the wife naturally plays a far less important part than that of the husband, seeing that the share of the former in cohabitation is only of a passive character. Whereas in the husband erection, which is generally brought about by the charms of the wife, is a necessary condition of coitus, in the wife a process similar to the erection in the husband is not necessary either for coitus or impregnation. This is why intercourse is possible even if the wife is not sexually excited by the husband. This circumstance must be borne in mind in regard to the intercourse between a homosexual wife and a normal husband. Of course, the wife does not in such cases experience any sensual pleasure. This is not, however, necessary for impregnation, notwithstanding the opinion of some that the entrance of the spermatozoa into the uterus is facilitated by the rhythmical contractions which accompany the orgasm of coitus in normal women. At any rate we do know that there are many heterosexual and homosexual women who become impregnated although they experience no sensual pleasure during intercourse.

Sometimes however, the homosexuality of the wife is associated with an intense aversion to normal intercourse. Some wives endeavour to conquer it like homosexual men, by imagining during the intercourse with their husbands that they are

practising lesbian connection with some other woman. But even this cannot in some cases diminish the disgust at the intercourse, and such wives refuse to cohabit with their husbands. I know married couples where the wives urge all sorts of reasons, such as fatigue, pain in the abdomen, and so on, to prevent the husbands from having intercourse with them at all or only at very rare intervals, but where the real motive is the dislike of being touched by their husbands. I know of one homosexual married woman who remained for months under the treatment of a gynæcologist to whom she pretended to be suffering from all kinds of complaints of the genital organs, mentioning in particular that she had severe spasms in the abdomen after each sexual intercourse. The whole was nothing but a farce; she merely desired in this way to get hold of a plausible excuse for refusing to have intercourse with her husband. Where the wife has such an aversion to coitus, the influence of the perversion on cohabitation is naturally just as important as when the latter is impossible owing to the absence of erection in the husband. Besides, even where the dislike of the wife does not go quite so far, the gratification of the husband's desire is rendered very difficult by the absence of counter-affection on the part of the wife, since the reciprocal frictions are thus wanting which favour not only the ejaculation but also the sensual pleasure.

Disharmony of marriage where one of the partners is homosexual.—We have further to consider that an harmonious married life is very much promoted by a sexual cohabitation which affords gratification to both sides or which is at least not loathsome to either of them. If one of the partners is perverse and experiences in consequence disgust during intercourse, not only is it impossible for both sides to feel satisfaction, but the danger is very near that the disgust will also give rise to moral antipathy. It is true that many sexually anæsthetic or frigid women also exhibit an absence of real pleasure during intercourse, but still they do not experience such a disgust at being touched by their husbands as is done by some homosexual wives. Moreover, this disgust at being touched is present not only during cohabitation, but also at other times, and

this applies to the homosexual husband as well as to the homosexual wife. Such a husband can kiss his wife with reluctance only; a lady who was married to an homosexual man—the marriage is now happily dissolved—describes the typical way in which he used to kiss her. He would always draw in his lips so as to make the touch as little close as possible, because a hearty kiss was not only a matter of indifference to him but actually unsympathetic. To such a man the kiss of a woman is just as disagreeable as to a normal man the kiss of another man. And no less disagreeable is to a marked homosexual woman the kiss of a man. The sexually anæsthetic but heterosexual wife is capable of experiencing towards her husband all the signs of love; she takes an interest in him, likes to kiss him, and so forth. Of this there can be no question in the homosexual wife. Even if for material reasons she simulates passionate affection while having intercourse or while being embraced, and she succeeds in deceiving her husband for a time, she is sure to forget herself once sooner or later, because she does not possess the real inner incitement, because she has not the feeling of love.

In addition to the difficulties which are created for the sexual cohabitation by the homosexuality of one of the partners and apart from the repugnance with which reciprocal approximation takes place, circumstances which cannot fail to have an influence upon the married life of both husband and wife, it also happens that the other general relations of the married state are equally disturbed by the homosexuality. Marriage is not only a cohabitation for the purpose of sexual connection. And for this very reason the existence of virility is not in itself sufficient to cause us to recommend marriage. Even if we regard prudential marriages as morally permissible, and discard all romantic extravagances, we must nevertheless demand a moral inclination of the two parties towards one another, seeing how imperative it is for a happy marriage. Pronounced homosexuality of one of the parties precludes the possibility of conjugal comradeship, it also precludes the possibility of an harmonious married state which rests upon sexual cohabitation. That all sorts of strifes may result in consequence, it is not necessary to enlarge upon any further.

Condemnation of Homosexuality.—There is the additional element that homosexuality is in itself repugnant to most people. We have only to remember how society condemns all homosexual intercourse. Even among prostitutes as *Parent Duchatelet* has already observed, this practice is looked upon as something base. This being so, normal people are never disposed to join either themselves, or individuals closely related to them, with homosexual persons. I do not take here into account the criminality and punishableness of the homosexual intercourse, but desire to point out merely that homosexuality is, as such, a quality which acts upon other people as disgustingly and repugnantly as, say, a repulsive skin disease. The description of the homosexual as a hermaphrodite in body and soul is quite correct, and just as physical hermaphroditism is æsthetically repulsive solely on account of its disharmony, so homosexuality is repulsive for the very same reason. Whether the homosexuality has been acquired during life, or whether it is to be regarded as congenital is immaterial; the whole represents a sort of malformation, and from the ethical point of view the question is worth considering whether marriage with such an individual ought to be inflicted upon the other partner.

So long as the homosexual is single, the perversion constitutes a danger to him alone; but when he joins his fate to that of a woman, by whom he brings children into the world, his homosexuality may become disastrous to others as well. This is the case not only where the homosexual intercourse takes place after his marriage, but also where it occurred before that event, and where infamous blackmailing has been afterwards practised upon him in consequence.

Extra-conjugal intercourse of homosexuals.

—There is the further danger that the homosexuality itself may demand its gratification. Where no reliance can be placed upon the suppressibility of the perverse desire, marriage must be most energetically opposed, as we must not in any shape or form abet adulterous homosexual relations any more than heterosexual adultery. The conjugal strifes are often aggravated by the circumstance that not only does the sensual desire require gratification, but that a true love springs up between the homosexual

partner and a third individual. The homosexual married woman has not infrequently sexual relations with a female friend. Exactly as she is depicted in *Belot's* novel, "*Mademoiselle Girand ma femme*," she refuses to have intercourse with her husband, but carries on the same with her friend. Though this homosexual intercourse takes place often enough in secret only and behind the back of the husband, it, nevertheless, happens that in some cases the friend acquires such a powerful influence over the married woman that she forces herself into the household, and this can go so far as to make the husband occupy a most lamentable position. Cases are known to me, where the common bedroom of the married couple is at the disposal of the two women-friends, and where the husband is excluded from it whenever the humour of the friend is that way inclined. Just in the same manner the homosexual husband sacrifices his wife and home in favour of his male paramour. All sorts of jealous scenes are apt to occur, and acts of violence between the parties concerned are not infrequently the result.

The married state can be disturbed just as much by the homosexuality of one of the partners, as by a woman or man, as the case may be, intervening between a sexually normal married couple; the difference is only that the anguish of the deceived partner at seeing the happiness of the marriage destroyed by a perverse relationship must be considerably greater. It is worthy of consideration that the normal partner also may in the end be driven by the perversion of the other to commit moral and physical adultery. A wife whose homosexual husband is at the utmost capable of performing cohabitation occasionally with the greatest difficulty, but who does not manifest the slightest love for his wife while practising at the same time homosexual intercourse—such a wife will naturally have no difficulty in breaking her vows, too, and, obeying a natural impulse, she will finally seek gratification outside the bonds of her marriage. As to the consequences of the unfaithfulness, if the latter is not confined to a solitary occasion only but rests upon a lasting extra-conjugal affection, as to the results on the education of the children, it is hardly necessary to say very much here. That divorce or separation is bound to come in the end is quite

evident. I have a knowledge of quite a number of cases of divorce which had their origin entirely in the homosexual intercourse of the husband or the wife, and in several of these cases I have actually myself recommended the dissolution of the marriage.

Disturbances in the married state may, however, occur also where the homosexual relations have not gone quite so far as to culminate in perverse sexual intercourse. This is often the case with sexually anæsthetic women, that is, women in whom the desire for detumescence is absent, and who do not for this reason have any intercourse with others, but who possess nevertheless homosexual proclivities. The desire to be together with the woman they love, to possess her exclusively, albeit without any sexual intercourse, involves the neglect of other interests and persons, of husband and children, just as much as does the perverse intimate cohabitation. It does, however, happen sometimes that homosexual women commence, as soon as they have become mothers, a more regulated domestic life and that they forget their female paramours to whom they had clung most passionately, in favour of their children. Though it is not exactly very happy marriages which result in such cases, maternity is, nevertheless, capable of recalling homosexual wives to a sense of their duties and to supply them with an object to which to devote their lives. Married couples are known to me who were detained from becoming divorced by motherhood exclusively, and in a few cases in which the question of divorce arose during pregnancy I have myself recommended to treat the matter dilatorily up to the time of the confinement and to await the effect of motherhood upon the homosexual wife. I do not take up the position that a dissolution of the marriage must be avoided at all costs; it is, on the contrary, sometimes the best possible course to be recommended in the interest of all the parties concerned, but on the other hand we should remember that it ought not to be brought about lightly or hastily, especially where there are important social reasons inclining the other way.

The effeminate.— It is further to be recollected that some homosexuals, men as well as women, present not only in regard to their sexual desires, but in other directions also, several

qualities which belong more to the other sex. Men with female inclinations are described as effeminate, women with male tendencies as viragoes. Such men are attracted towards other men not only by their sexual desires, but they generally feel that they do not belong to their own sex. They regret that they are considered on account of their genitals, outwardly as men. In their entire behaviour, in all their movements, they manifest female traits; they prefer to be dressed in female attire, are fond of female adornments, and vanity in respect of their outward appearance, as well as the follies of fashion and coquetry are developed in them to a remarkable degree. Of themselves they say that they "pretend" to be men. Some of them do not only shave with the greatest regularity and punctiliousness so as to retain a feminine-looking face, but employ depilatories in order to obtain better results. Some wear corsets so as to give their figures as female an appearance as possible, use women's stockings, prefer domestic arrangements such as suit ladies only, have their boudoirs, and so on. They are fond of feminine occupations, f. i. needle-work and the like; masculine pastimes such as smoking, drinking, sport, etc., are unknown to them. The character, too, is more like that of woman: talkativeness, moodiness, an inclination towards untruthfulness, often amounting to affected hypocrisy, are under such circumstances observed.

The virago.—Similarly some homosexual women exhibit masculine peculiarities of character, apart from the sexual desire. They have a passion for wearing men's clothes, they smoke, and not cigarettes only, but cigars as well; they prefer men's work, f. i. the exercise of a male occupation, to the supervision of the household arrangements. I am informed through several quite reliable sources that a number of lady-champions of women's rights are pronounced homosexuals who entertain amorous relations with female persons. Such homosexual women are fond of sport, like riding on horseback, athletics and fencing; they have no love nor the necessary adroitness for needle-work, and such like. As children already, some of them were fond of playing at soldiers or robbers rather than with dolls and other girlish playthings. Their movements resemble those of the male sex; the gait is unwomanly. They prefer to

dance with other women. Some of them—I know personally several such cases—have gone so far that on account of their disinclination to follow a feminine occupation, they have, disguised as men, done work for many years such as is generally done by male workers only; I may mention the case of a woman who has worked for many years as a stone-cutter. Some have even taken an active part in war-service.

That such men and women are little suited to enter into matrimony with individuals whose character is that of their respective sex, and that serious conflicts are sure to occur in connection with such marriages, does not admit of the slightest doubt. Men with such inclinations take more interest in the domestic arrangements than most normal women will allow, they interfere in every household detail, while on the other hand women of this kind have no understanding for, or interest in, the management of a household.

Contrary sexual sensation without homosexuality.—For the sake of completeness I have to mention yet that there are cases where men or women feel heterosexually, but where they nevertheless consider themselves as belonging generally to the other sex. Such a man likes for instance to dress as a woman, also wears corsets, ladies' underclothing, ladies' stockings, ladies' boots, yet has sexual inclinations towards women. Female charms only can bring about any processes in his genital organs. Such a woman feels sensually attracted towards men, but in other things she prefers to lead the life of a man, and she possesses male characteristics. These people are also not generally adapted for marriage, seeing that they are short of those qualities which are necessary for their position as husband or wife respectively. It also happens that they do not find full gratification in sexual intercourse; and such men are even frequently impotent in their connection with female persons. For although female qualities exercise a sexual irritation in them, real cohabitation is mostly to them an insufficient satisfaction. It is a peculiar contest which they find themselves drawn into; on the one hand they feel an attraction towards the female sex, and on the other they would like to see the position reversed. Such a man loves to play during copulation the

woman's part, and he treats in his imagination the woman, with whom he desires to have connection, as a man.

The bodily build of homosexuals.—Considering the significance possessed by the psychical qualities, it is not of very great importance whether the homosexual manifests also physical peculiarities which are distinguishing features of the other sex. There are homosexual men who are like women not only in their moral character, but who present also resemblances to the female body-build, f. i. a development of the breasts. Similarly there are homosexual women who approximate the male type, f. i. in the development of the larynx, in the deficient development of the breasts, in the male shape of the pelvis. While in man this is probably of no consequence at all from the point of view of marriage, it cannot be said that contrary physical qualities in woman are of no significance with regard to labour and lactation. I shall return to this subject later on when discussing the dangers arising to the offspring from the sexual perversion of the parents.

Pseudo-hermaphroditism and homosexuality.—There is yet another case, where female body-build in the man and male body-build in the woman constitute most serious objections against marriage. This is the case of pseudo-hermaphroditism. Although in the majority of homosexuals the genitals are normally developed, and the cases in which there is an abnormal formation are in proportion to the large number of homosexuals hardly worth mentioning, it must yet be recognised that if we proceed not from the standpoint of homosexuality but from that of pseudo-hermaphroditism, the matter is somewhat different. It is well-known that we differentiate the sexes by the fact whether there are testicles or ovaries present; the presence of testes is an indication of the male, that of ovaries of the female sex. Genuine hermaphroditism can only be existent where there are present in the same individual ovaries and testes. Whether this does occur in human beings is still open to doubt. From this true hermaphroditism we have to distinguish pseudo-hermaphroditism in which there are at the genitals some formations which pertain not to the real sex of the person in question but to the opposite sex, f. i. the external genitals

show a male character, although there are ovaries present, or they are more feminine in appearance although testicles are present. That mistakes can thereby arise at the moment of the pronouncement of the sex of new-born infants is absolutely certain. Pseudo-hermaphroditism can also acquire the greatest importance to the married state in connection with the subject of sexual desire. In pseudo-hermaphrodites not only the external genitals are more or less contrarily developed, other qualities, too, assume in them a contrary development; male hermaphrodites f. i exhibit female breasts. The psychical qualities, as well, take sometimes a contrary direction, especially the sexual desire. Male pseudo-hermaphrodites feel themselves therefore sexually attracted more to the male, and female more to the female sex. Now, if the external genitals were the decisive factor in the declaration of the sex, and a mistake was made at the time, one can understand that the perverse development of the sexual desire is likely to assist that mistake further still. In this way it is easy to explain how it is that in a number of cases male pseudo-hermaphrodites have married men, and female pseudo-hermaphrodites have married women. Quite apart from the fact that procreation is here out of the question, such marriages are for numerous other reasons decidedly inadmissible.

It is necessary that the medical practitioner should be acquainted with these conditions. It is hardly likely that he will ever have occasion to express an opinion on such a point before the consummation of a contemplated marriage. Should it however happen to be the case, and should he have a knowledge of the details, it is his duty to prevent that marriage. What does happen occasionally and what in fact has happened several times, is that a medical examination ascertains only after marriage whether the person in question is a man or a woman, and for this reason it is necessary that the physician should know that in such pseudo-hermaphrodites the sexual desire is also very often perversely developed, and that it forms consequently no decisive criterion for the determination of the sex.

The treatment of homosexuality I will not discuss here; there will be an opportunity to say something on the point when

considering the subject of heterosexual perversion, since the same principles apply to the treatment of both these perversions.

3. *Heterosexual perversions.*

I have so far spoken of the disturbances caused to the married state by homosexuality. Perversions which though they are directed against the opposite sex, but which are excited by abnormal means and which aim at abnormal acts, are, however, also calculated to injure married life most severely. To this class belong sadism, masochism and fetichism. I will consider these three perversions separately, but shall afterwards add a few general observations dealing comprehensively with the medico-legal dangers, the prognosis and treatment, so as to avoid repetitions.

Sadism.—Let us take sadism first. It is easy to imagine the conditions which are bound to arise if husband or wife has pronounced sadistic inclinations and is bent upon satisfying his or her sexual desire by cruelties, blows or other ill-treatment inflicted upon the other partner. Even slight degrees of sadism may assume an enormous importance, although it is hardly possible here to distinguish between the physiological and the pathological. The husband plays in sexual life a more active part and overcomes, by using even a small amount of force, the natural modesty of the wife who shrinks from giving herself away. A serious disturbance of the married state will hardly occur in consequence, provided the force employed does not exceed the amount which is welcome; but a pathological increase of this activity is sure to exercise a considerable influence. A sadistic inclination is even far more detrimental to the harmony between husband and wife than a violent temper, seeing that as a manifestation of the sexual desire it is frequently beyond self-control. Where the latter is absent, the married state of the sadist is necessarily a long chain of continued cruelty which takes different forms. One need not think in this connection of those extreme cases where the impulse to stab, to strangle or to kill takes hold of the sadist. But let us rather remember those husbands who do not induce their wives by gentle physical persuasion to

perform coitus, but force them into it by brute strength while holding them fast and overpowering their resistance. The transitions are here naturally quite gradual in character. Some cases which from the standpoint of pathology seem harmless, are far more important in causing disturbances of the married state than the severer ones. In a case known to me the husband tried before sexual intercourse to torment his wife by tickling her, while he himself became excited through her defensive movements which he rendered ineffectual by sheer force. The severe neurasthenia which attacked the wife was thus caused by this ill-treatment inflicted upon her by her husband. In other cases the husband tries to satisfy his sexual desire by beating, biting or knocking down the wife, and also by binding her. Sometimes the one partner is compelled by the other to perform all kinds of humiliating acts, such as kissing the feet, or even worse things. There are sadists for whose excitement the infliction of pain on a third person is also necessary, f. i. men who can find sexual irritation only if the woman torments another man, if she beats a child, kills or tortures an animal. That such means of sexual irritation are ever likely to be employed by married people is very problematical, but still the possibility is not altogether precluded; as regards the torture of animals particularly, I know of a case which presented that peculiarity. The outside public has no idea of the scenes which take place sometimes in the married life of sadists and only the medical adviser who possesses the full confidence of the family gets to know occasionally something about them, or else the lawyer, if the dissolution of the marriage becomes inevitable.

In numerous cases the sadistic act takes the place of the coitus, that is, the process intended for the procreation of children falls away, and all desire for coitus is absent. There is even in numerous men of this sort an actual impotence of copulation, or there may exist potency only with the help of sadistic imaginary pictures which enables the desired result to be obtained with the greatest difficulty only. This alone shows what an objection there is against marriage in such cases. There are of course cases where matters are different, where the sadistic act takes place simultaneously with or preparatorily to the coitus. (The

case where the sadistic act takes place after the coitus, seems to be very rare; such a case is represented by the mutilation of the body in some lustful murders.) The sadistic action taking place simultaneously with the coitus may consist in biting and pinching which surpass the physiological limit. Preparatory actions take place in some of those cases where the man finds sexual excitement in the binding or gagging of the woman, or where the woman is compelled to kill or torture some animal.

Apart from the impotence, sadism is capable of destroying the harmony between husband and wife. It also happens, that like many homosexual women, some sadistic women detest sexual intercourse. Of a married woman thus inclined, I know that she refused to have connexion ostensibly on account of complaints associated with her menstruation-periods; but these lasted rather too long, commencing 14 days before the period and terminating as a rule 14 days after it. The husband found this rather tiresome, and after several disputes the marriage was dissolved.¹

Some sadists and especially women are rendered by sadism permanently domineering and not only temporarily so while the sexual act is being exercised. The whole character reveals a corresponding quality, and a wife of this description finds satisfaction only in the permanent subjugation of her husband who becomes her slave in every respect, so that the harmony of marriage is thereby naturally disturbed. If we remember how much married life suffers merely through the capriciousness and overbearing conduct of one of the partners, we can easily judge what perturbations must be caused by the arbitrariness so intimately connected with the sexual desire. *Sacher-Masoch* who has known the sadistic woman to perfection, does not speak of her at all as a good wife. "The Wanda type is to him exclusively that of the kept mistress, that of the female animal who is capable of exciting sensual rut, but nothing else." A sadistic woman of this sort who is now divorced from her husband

¹Translator's note: It is, perhaps, as well to remind the reader that these cases refer to German conditions, and that the divorce-laws of the German Empire are more elastic than those of Great Britain, though, perhaps, not so elastic as those of some American States.

after many years of married life during which she did not admit him once to sexual intercourse, declared gleefully when asked about her matrimonial affairs, that what she liked best was to beat her husband with her riding-whip.

Sometimes sadism occurs, like other perversions, alternately with normal sexual desire or alternately with masochism. The extent of the normal desire may occasionally have to be taken into account when the question of marriage is being considered.

Masochism.—Masochism, the perversion in which gratification is sought by means of subjection *to* the other person, is also of importance to the married state. The male or female masochist takes delight in being fettered, bound, beaten, ill-treated or stabbed by the beloved associate. Frequently all sorts of symbolical acts are performed in addition: the individual in question desires to be trampled upon, to kiss the feet or boots of the other person, and this may go even so far that he finds his greatest ecstasy in the unfaithfulness of his beloved, since this appears to him to be the highest degree of his own humiliation. A simultaneous gratification of both sides can take place only if one of them is masochistically and the other sadistically inclined. Just as reciprocal gratification increases the orgasm of both partners in normal intercourse, so it is the case with masochism. The delight of one of the partners acts somewhat contagiously on the other. The great desire of the male masochist is therefore a female sadist. If one of the partners is masochistic, and the other normal, there is an absence of the mutual supplement for the gratification, though the normal woman tries to please her masochistic partner by executing the actions demanded from her. For since the woman in this case is not impelled to these actions by her sexual instinct, the process is to the masochist nothing but a surrogate, or even a farce. And even where in the female sadist the sexual life plays only a psychical part, and there are no sensual pleasures at the genital organs, yet the sadistic woman alone can procure to the masochist full gratification. In one case of which I know this went so far that a masochistic man and the sadistic woman whom he married, concluded before their marriage a regular agreement

stipulating in the most exact manner their reciprocal sexual intercourse. The agreement was in conformity with the perversion and included even the point that the husband undertook not to interfere in any way with his wife's other arrangements. The masochistic sensation of the husband reached here the degree already mentioned, namely that in which he found his delight principally in the unfaithfulness of his own wife. How such a marriage is likely to turn out, it is not very difficult to guess. Of course, it must be admitted, so as to prevent an over-estimation of this and other perversions, that in the married life of sexually normal people, too, real happiness, that is, a mutual understanding, is more often absent than the public is aware, although harmony is frequently simulated by untruths and hypocrisy, chiefly in the interest of the children.

Many masochists marry although they do not attain their great desire, namely a sadistic wife, just as normally constituted people also have as a rule to be satisfied with less than their ideal marriage. Where medical advice is sought on the point, the physician must consider whether the masochist is on account of his other qualities fit to get married or not, and an important part is played in this connection, though not with the exclusion of other factors, by the circumstance whether virility is present or absent. Like in sadism and homosexuality, there exists in some masochists a normal sexual desire in addition to the perversion. It is only towards certain female persons that they experience the perverse passion, and it may even happen that they are masochistic in the presence of prostitutes and low women only, whereas in the presence of women who are on the same mental and social level as themselves, they are guided by perfectly normal feelings. That their virility may be unimpaired towards such women who are their equals is of importance from the point of view of marriage. It also happens sometimes that the masochistic feeling is an ideal one only, a so-called platonic one, while the carnal love manifests itself in a normal manner. There may consequently in all these cases be an absence of every contra-indication to the marriage from the standpoint of virility. But whether the virility is sufficient or not, it also remains to be considered

whether the masochism is so pronounced as to exclude the possibility of suppressing it.

Sometimes the disturbance can be so considerable that one may reckon with certainty on extra-conjugal perverse intercourse or on masturbatory gratification. This is particularly likely to be the case where the person in question is deterred by his sense of shame from confessing his weakness to the wife or where the latter refuses the perverse intercourse. A high functionary had the desire to be beaten by his wife during the sexual act. As the latter would not agree to this, the two came to an understanding that the husband should periodically go to the nearest large town, there to gratify his perverse proclivity.

There are also cases where the male or female masochist has a desire to perform coitus with the other partner; the masochistic action in which the husband, for instance, allows himself to be beaten is only a preparatory one, or it takes place during the coitus, although the act is naturally rendered very difficult for mechanical reasons. Whether marriage is under such circumstances desirable is less a medical question than a matter of taste. My own opinion is that in most cases where virility can be sustained only by such adventitious aids, marriage offers very serious objections, since after all it is hardly fair to subject the other partner to such perverse actions.

With regard to the question whether the male or female masochist is otherwise adapted for marriage, it is necessary to take into consideration the entire reciprocal relationship. Masochists behave differently. Some like to be constantly under the whip of the woman, others are dominated by the perverse feeling only during intercourse, and look, after their gratification, upon their wives as true helpmates with whom they like to discuss their common interests. It is true that many experience after the act, a feeling of intense shame towards the other partner, but this may diminish in the course of time and finally disappear altogether. In other respects many masochists are very well fit for marriage. Even if some of them are eccentric others are on the other hand possessed of qualities which make them quite fit to become husbands and fathers of families. It

must, nevertheless, be admitted that some masochists change their inclinations exceedingly often; they are excited by one particular woman only so long as they cannot obtain her. As soon as their wish is realised, the excitement disappears. However, masochism, if not as yet of too pronounced a character, can be influenced favourably by married life, since habituation plays here also a very important part. The discernment of a sexually normal wife can with the help and under the direction of an experienced physician, do a great deal towards causing the disappearance of light degrees of masochism, especially if the masochist himself employs that self-discipline of which I shall speak more fully later on.

Fetichism.—Let us now consider the subject of fetichism in which the border-line between the pathological and the physiological is, perhaps, even more difficult to define than in the other sexual perversions. Under normal circumstances it may also happen that a man becomes enraptured by a certain part of the female body or by certain female qualities, and the same may occur in a woman with respect to the male sex. Some are enthusiastic about a beautiful head of hair, others dote on fair hair only, others again are charmed by beautiful teeth, one individual is fascinated by small hands, another by small feet. It can hardly be maintained that there is something pathological in such predilections. Indeed, we can go further: even in the predilection for certain objects belonging to a woman, for instance, articles of dress or dress-materials, we need not necessarily see a morbid inclination. We must take into consideration that a large part of the physical qualities of human beings is hidden beneath the clothes we wear, and that under normal circumstances, too, a certain amount of sexual sensation is in consequence associated with dress, without there being anything pathological about it. If, therefore, one individual is fond of a waist such as is shaped by the wearing of corsets, and another becomes sexually irritated by the sight of a woman dressed in furs or silks, we must be careful before we declare the one or the other a pathological subject. The sexual irritability of civilised man becomes changed through habit and, perhaps, also through hereditary forces, and it partly clings to objects which

though not belonging to the human body are associated with it. I need only mention the fondness which many women entertain for the military uniform, which is perhaps unconsciously or consciously regarded as a symbol of bravery and courage, qualities in the male sex which attract the female. If there is therefore nothing abnormal in this, we must consider further that there are still higher degrees of this physiological fetichism. The enthusiastic young lover who is happy when he can hold in his hands and kiss the neckband or glove of the girl he adores, or who finds the highest bliss in touching with his lips the letter from his lady-love, can hardly be regarded as pathological. Were we to see in such sentiments a contradiction against marriage we should almost have to prohibit the marriage of every individual who experiences real love. What characterises these last-mentioned cases as non-pathological fetichism, is first of all the circumstance that the person in question does not love the object as an object, but because it serves to remind him of the woman he loves; besides, in these cases the fetichism does not go so far as to prevent the individual from normal sexual action. If on the other hand a man hankers after the neckband or handkerchief of any woman unknown to him whom he meets in the street, if he presses frantically to his lips the handkerchief of every possible prostitute, if he has in consequence erection or even ejaculation, in other words if the personality in question is altogether of minor importance, and an object belonging to her, plays the principal rôle, the person herself being nothing more than an appendage of little consequence—it is in such a case that we can speak of pathological fetichism, or that we can regard it as an impediment to marriage. Such an impediment may also be considered to be present if the fetichism applies to a definite part of the body or to an object belonging to the woman whom the individual in question is intending to marry. It is important to remember that the sexual desire of some fetichists is not directed towards coitus but towards certain perverse actions, f. i. masturbation with the fetichistically loved object, and this goes in numerous cases so far that there is an actual impotentia cœundi, or that potency can be excited artificially only and with great difficulty.

If virility can be attained only by all kinds of artificial remedies, such as frictions, the use of alcohol or the most intensive imagination of the fetish, the advice to get married cannot be given. In a case known to me, intercourse is only possible if the husband all the while holds and presses in his hands his wife's handkerchief, in another if he sees before him and touches her shoes during the act. Let one imagine what must be the feelings of a married woman whom I know, with whom her fetichistic husband can practise sexual connexion only if she appears before him in full evening dress. A wife has the right to demand intercourse with her husband without having to apparel herself thus, and whether she would agree to such unreasonable conditions is so doubtful that one must certainly expect a troubled married life under the circumstances. Such cases of fetichism may in spite of an existent virility disturb severely the married state.

But when all this does not apply, if the intercourse takes place normally and the pervert gets sexually irritated only by some peculiar quality or other, f. i. the hair-fetichist by the hair of his wife, there is no necessity to raise any objections. There seems to be no reason why a marriage should be contra-indicated because an individual finds in his intended partner those very qualities which excite his sexual desire. Matrimony is on the contrary the best remedy to be recommended under such circumstances. Even in those forms of fetichism the higher degrees of which make marriage appear undesirable, it is worth considering that milder degrees are often recovered from and that the sexual life of a man may with the assistance of an intelligent wife be rendered quite normal.

The different objectionable features of the heterosexual perversion.—The importance of sadism, masochism and fetichism to the married state is a multifarious one. Each of these perversions can produce impotence or at least make intercourse so difficult of accomplishment, that a severe disturbance of the married life may be apprehended in consequence. There is the danger superadded of extra-conjugal intercourse, as the individual in question does not as a rule find within the married state the gratification corresponding to his desire; often he seeks satisfaction in masturbation. That

some avoid all extra-conjugal intercourse, either because the perverse desire is not too intense, or because their sense of propriety is particularly strong, is certainly true. But it must be considered that a large group of these sexual perverts are at the same time subject to an hyperæsthesia of the sexual desire, which urges them in the perverse direction, and that it is owing to this circumstance that the temptation to indulge in extra-conjugal perverse intercourse is very great.

But apart from that, the pervert himself and consequently his family too, are in so far in danger, as the perversion, especially in extra-conjugal intercourse, gives rise to punishable offences. We have only to mention the bodily injuries caused by the sadist, and the thefts committed by the fetichist. Quite a number of cases have already engaged the attention of law-courts in which the offence consisted of thefts of handkerchiefs and plaits of hair, actuated by a fetichistic perversion. All this is a source of peril not to the pervert only, but also to his family. Then there is the repulsiveness of many perverse actions, even if they are not punishable, f. i., the humiliation-scenes of the masochist. That masochism may also lead to punishable offences is quite imaginable. Of course, a criminal physical injury—even bodily injuries which have been perpetrated at the wish of the injured party may be punishable—is, owing to the sense of self-preservation, hardly likely to occur. But as *Krafft-Ebing* rightly points out, there is a great affinity between masochism and sexual submissiveness, which is characterised by such an unlimited subordination to the will of another, as f. i. that of one's mistress, that the submissive person is capable of committing any crime if desired to do so. *Krafft-Ebing* mentions the case of a man who on the basis of such submissiveness killed his own wife and children.

4. *Importance of prognosis and treatment.*

Prognosis.—In the cases in which the practitioner is in doubt as to whether he should give his consent to a marriage, the prognosis is often the decisive factor. Even strong pervers-

sions may be expected to disappear, perhaps, within an imaginable time, under the influence of married life, and for this reason we must take into consideration the prognosis in sadism, masochism and fetichism as we do in homosexuality. This prognosis depends upon several circumstances, principally from the hereditary predisposition and the whole physical and psychical constitution. Where there are numerous psychical abnormalities and all sorts of physical degenerative symptoms present, the prognosis is unfavourable. A man who suffers severely from mental illusions, who is subject to all sorts of anxious feelings, who is not only neuropathically but also psychopathically affected, and in whose family there have been many cases of insanity—such a case must be regarded as prognostically unfavourable. The perversion which springs from such a pathological nervous system cannot be removed with the same certainty as the perversion which has developed in an otherwise healthy organism; at least a permanent disappearance of it cannot be expected to occur so easily. The age too plays an important part. In younger people it will be easier to cause the disappearance of a perverse sensation, than if the person in question has under the constant accompaniment of the perversion reached the age of 30 or 40. Of importance is also the severity of the perverse sensation, and especially whether the normal sexual life is completely eliminated or whether there are marked traces of it.

Periodical Perversion.—Very unfavourably situated appear to me to be, on account of the danger of the hereditary predisposition as well as because of the difficulty with which a cure can be achieved, those cases where the perversion, and the corresponding perverse actions occur purely periodically. A number of these cases belong probably to epilepsy, especially those in which the actions are executed quite impulsively. I have published the case of a man who was arrested in the act of stealing a handkerchief from a lady in the street, and who experienced ejaculation when he passed the stolen handkerchief across his face. These attacks occurred periodically and then rather suddenly, and although they were not accompanied by complete loss of consciousness, there was, nevertheless, very

good reason for assuming a psychical equivalent of epilepsy. The man, a diligent artisan, was in other respects happily married; but the attack came without any premonitory signs, so that the wife could not exercise any influence upon it or prevent her husband from going out. The more suddenly the periodical perverse sensation occurs, the less favourable the influence which marriage can be expected to exercise. But the same thing may after all happen in connection with a sexual desire which is qualitatively normal, which can in feeble-minded individuals and other degenerates break out quite impulsively and lead to carnal offences, and which also shows at least in single cases the character of an epileptic attack.

Exhibitionism.—Those cases also present an unfavourable aspect in which the periodical perverse sensation, though it does not appear so suddenly, has, nevertheless, the character of an impulse urging the individual to commit a certain action. This applies *f. i.* to some cases of exhibitionism which have in recent times frequently engaged the attention of the police, the law-courts and also of the medical profession. There are men who experience now and then an impulse to exhibit their genitals in public places and to show them to female persons, and especially to little girls. Sometimes they go on with the act as far as masturbation, and sometimes the exhibition is the only thing which they do. The character of all the cases is not by any means clear yet. While we are justified in ascribing some to senile dementia and to progressive paralysis, others belong to epilepsy and a few to the hallucinations resting upon a degenerative basis. Whether the actions take place in the epileptic condition of stupor, whether they occur impulsively without loss of consciousness as a psychical equivalent of epilepsy, or whether they bear the character of the impulsive actions of degenerates, is immaterial; they are prognostically unfavourable, and marriage does not seem to exert any influence upon the disappearance of the perversion. I know of cases where husband and wife live happily together, but where, if an attack comes on, neither the great love for wife and children nor the influence of the former is capable of suppressing the seizure. The married state can have a beneficial effect only when it is

possible to recognise the attack at a very early stage, and where the wife can watch her husband so that he does not at least come into conflict with the law, either by placing him for the period of the attack in a proper institution, or by otherwise preventing him from going out. In those cases where the attacks do not announce themselves by any premonitory signs, the influence of the wife is absolutely nil.

Other sexual perversions can also occasionally appear in the form of a sudden attack; thus *Tarnowsky* has long ago pointed out the epileptic character of some homosexual acts. Sadism and fetichism may also occur periodically. The importance of periodical sexual perversions to the married state lies to a great extent in the frequently unfavourable prognosis, and especially in the fact that some of these cases must doubtlessly be attributed to epilepsy. Diagnostically it is important, particularly in view of the unfavourable prognosis of the periodical form, to distinguish between episodic attacks of perversion which may occasionally appear in even the healthiest man, and periodical perversions.

Perversion in organic disease of the brain.

—Having now become acquainted with the close relationship existing between some sexual perversions, epilepsy and degeneration, it is further necessary to point out that just as exhibitionism is occasionally a symptom of progressive paralysis or of senile dementia, so other perverse inclinations f. i. those of men towards other men, also appear sometimes as forerunners or symptoms of these two severe mental disorders. In connection with these serious cerebral diseases there may occur also other perverse propensities, f. i. a hankering after immature children. These signs of perversion often appear at a time when there are hardly any other symptoms of a cerebral affection or at least when they are unrecognisable by the lay public. Where the perversions are first noticed at an age at which such diseases of the brain occur, they must be taken into consideration. The importance of the point to the married state, whether it arises in connection with candidates for marriage or in married men, is quite evident. A searching investigation is the more necessary as the wives may possibly make use of the perverse

actions of their husbands for obtaining a divorce in their favour. I remember the case of one lady who would not at all believe that her husband was suffering from a cerebral affection. He had committed indecent acts with little girls and had on that account been placed by some friends in a lunatic asylum. The wife, who was still young, thought that this had been done only for the purpose of shielding him from legal punishment; she did not believe me either when I diagnosed that her husband was undoubtedly suffering from progressive paralysis. She wanted apparently to take advantage of the situation in order to obtain a favourable divorce. Even afterwards when the husband, broken down completely in spirit, lay paralysed, the wife thought that this was nothing but the consequence of his dissipations.

Treatment.—Of importance, of course, in considering the relations between sexual perversions and marriage, is the question whether the sufferer is willing to subject himself to treatment or not, as the prognosis often depends upon the treatment. Many a perversion can be removed by systematic treatment, which would otherwise continue unabated. The treatment is on the whole a psychical one; suggestion with or without hypnosis is here of importance. An attempt may be made to suggest away the perverse thoughts and to create by suggestions normal ones in their place. But at least just as important is the self-education. As the latter is still frequently underrated, let us consider it in a few words. All perverse sexual thoughts can, like normal thoughts, arise in a double manner, involuntarily and voluntarily. The homosexual man is suddenly seized with the perverse ideas, without having in reality done anything voluntarily to bring them about. They force themselves upon him, and he is often not able to suppress them until a gratification by *ejaculatio seminis* has taken place. In other cases, on the contrary, the perverse thoughts are purposely created. As they produce in the individual in question a strong sensual pleasure he gives himself up to them quite willingly. This psychical onanism is very important. Just as the normally sexual man imagines those acts which are agreeable to him (kissing, embracing or intercourse with a woman) so the pervert imagines what causes

him pleasure (men, masochistic and sadistic scenes, etc.). Voluntary psychical onanism also leads often to masturbation with perverse ideas. Now, experience teaches that the permanent avoidance of voluntary perverse mental representations can also bring about an enormous diminution in the involuntarily occurring perverse pictures, and this is particularly facilitated if the person in question has at the same time opportunities to let the normal charms of woman act upon him. The absolute avoidance of the voluntary production of perverse imaginary pictures, can, it is true, have a favourable effect in older individuals as well; even in them it is capable of causing a diminution in the homosexual or other perverse sensations, but a complete transformation of a pronounced perversion under the influence of self-discipline is possible almost exclusively in young persons only.

There is, of course, a great difficulty associated with this so very important question of self-discipline. There are a few perverts who regard their perverse ideas as something sinful and who try to banish them even without medical advice. To most of them, however, they bring such feelings of delight that they cannot easily do without them; they look upon these perverse ideas as an integral part of their personality, and the thought of having to give them up is so disagreeable to them that they will accept advice in that direction with very great difficulty only. The misunderstanding of many scientific works contributes towards the conception that the perversion is a something contained in the personality from early childhood, and that its elimination is impossible. It is, however, the duty of the conscientious physician to combat such exaggerated views to the best of his ability.

I have already briefly referred to the sexual intercourse with prostitutes which is sometimes recommended to perverts. Even granting its admissibility from the ethical point of view, it must still appear objectionable from the standpoint of hygiene. To the danger of infection I will refer again later on when discussing psychical impotence. Here let it be mentioned that the patient in question comes to consult the physician as a rule just because of his perverse sensation and because he suffers

from impotence as a consequence thereof. The simple advice to perform coitus with prostitutes will therefore not only be of no good, but it must often be regarded as injurious seeing that the impotence which is thus brought to light, causes the individual in question to become still more averse to the female sex. It is not coitus which must form the main object of the treatment, but such a condition of the individual in question as shall make him sexually susceptible to the normal attractions of the opposite sex. This can be achieved far oftener by a platonic companionship, especially if the above-mentioned self-discipline and other remedies are happily applied at the same time. An intelligent female person, matrimonially united with the patient or not, who attracts him to her by some quality or other, can do much towards establishing a normal heterosexuality, f. i. by utilising her normal charms as much as possible during her social or platonic companionship with the individual in question, where he is fetichistically or sadistically inclined.

Incidentally I only wish to mention that in the case of sexual perversion in female persons, the advice to indulge in extra-conjugal sexual intercourse is absolutely out of the question. That the treatment to be adopted must take into consideration the entire constitution, and that the physician must recommend all the appropriate measures to be taken, is self-evident.

5. *Sexual inclination towards children and animals.*

Sexual inclination towards children.—So as not to make the description too tedious, I have purposely refrained from discussing some sexual perversions. I have f. i. left out of consideration the inclination to children and only mentioned it casually when discussing senile dementia and the general paralysis of the insane, and also when I dealt with the homosexual inclination which is directed to unripe boys. But there are also cases in which only immature girls, and others in which sometimes immature girls and sometimes immature boys, form the object of the sexual desire. But whereas some of these unnatural offences against children are certainly committed by profligates, we see that they rest sometimes on diseased condi-

tions. Apart from senile dementia and progressive paralysis, epilepsy and feeble-mindedness also come into question. There exists, however, in certain individuals who do not suffer from any of these diseases an original perversion which is directed towards children. *Krafft-Ebing* designates it as *pædophilia erotica*. There takes place in connection with it all sorts of obscene contact with the children, and we have no right to regard the individual in question as a libertine. The whole subject is as yet little understood. We may, however, take it as probable that an exclusive inclination to children with the exclusion of the normal desire is always a sign of serious taint. We do not know what influence marriage may exercise in this connection. That this influence could in itself be an unfavourable one, is hardly to be expected. The circumstance that an acquired inclination appears comparatively often in persons who are much in the company of children, f. i. teachers, would seem to suggest *a priori* that the constant cohabitation with an adult female person ought to diminish the desire for immature children. We have, however, hardly any positive material in this direction. It must, in any case, be remembered that the great danger which exists from the point of view of the criminal law—unnatural offences against children are very severely punished in all civilised countries—subjects the wife to the risk of seeing her husband come into conflict with that law. Be that as it may, *Krafft-Ebing's* opinion that such men belong to a sanatorium, is from the theoretical standpoint the best, though it cannot unfortunately be carried out in practice in many cases. My experience tells me that a cure of the inclination to children does occur.

Sexual inclination towards animals.—There is finally to be mentioned the sexual affection for animals which cannot, however, always be distinguished from the non-sexual. There is, of course, no sexual affection in those cases which consist of peripheral titillation such as is taught for instance by some women to small dogs; but such real sexual inclination may develop at the period of the undifferentiated sexual desire and manifest itself by an impulse to fondle dogs, cats, horses, canaries or other domestic animals. It occurs also at later periods

of life and seems to possess in women sometimes a platonic character. Some women who are in the habit of visiting frequently the monkey-houses of Zoological gardens and who are well-known to some of the more observant keepers, belong, perhaps, to this category. In a few of the cases there is some evidence of a sexual basis to the fondness for animals, though of one, perhaps, without a sensual character. Of course, not every pronounced love of animals, even if it appears very much exaggerated and eccentric, must be declared as something sexual; this would be just as wrong as the attribution of every act of cruelty to sadism, to which some individuals who have heard or read something on the subject without understanding it, feel a certain inclination. But sexual fondness for animals does occur, and in both sexes, too. In man it shows itself occasionally in a desire for sexual gratification with animals. For the present, however, it is hardly possible to draw a sharp line between vice and disease, especially as it is very frequently only an hyperæsthesia of the sexual desire which is the cause of sexual acts on animals. Similarly the importance of sexual fondness for animals to the married state is hardly, as yet understood. The exaggerated inclination of women towards animals suggests the following reflections: Whether we assume a sexual basis or not, it appears that it is observed particularly in elderly unmarried women or in whimsical females. At all events it is permissible to anticipate from married life in such cases a favourable rather than an unfavourable effect. As regards men it must be recollected that the desire to perform sexual acts on or with animals is evidence of a serious degenerative character, and this gives rise to all those objections against marriage which I have already discussed when dealing with the degeneration of other sexual perversions, or which I will discuss yet from the point of view of their importance to the offspring. Where marriage is thought of, it is, of course, necessary in all cases to consider the virility towards women.

6. *Psychical impotence.*

The causes of psychical impotence.—We have already several times alluded above to cases in which the virile

power is absent or deficient. They referred to perverts in whom normal female charms are not capable of producing erection and ejaculation. As the impotence is in these cases of a psychical character, they belong strictly speaking to the category of psychical impotences, but it is not usual to include the sexual perversions among the latter, because it is not the impotence which is their characteristic feature, although impotence frequently accompanies the perversions. Similarly the numerous cases of neurasthenic impotence must also be separated from psychical impotence, for instance those in which mental overexertion produces a general neurasthenia of which impotence is one of the symptoms. As psychical impotence in the narrower sense we understand those cases where the sexual desire is normal, but where the virility is absent in immediate consequence of psychical processes acting inhibitorily. There is usually in these cases a want of erection and ejaculation. In some of them, however, the erection alone is absent, while ejaculation takes place nevertheless. The psychical processes which lead to impotence can be of different kinds, but they are generally based upon emotions. Among these the principal one is the fear of impotence. The more the individual in question desires to be virile the stronger the inhibitory representation which prevents the erection. Most of the patients belonging to this group are neurasthenics, but not all. Many of them were in the habit of indulging in all sorts of sexual excesses, and especially in masturbation, and are now afraid of the consequences which they grossly exaggerate. That the dread of being unable to effect the defloration plays a particularly important part need hardly be mentioned. There are also other emotions which produce psychical impotence. This is f. i. observed in husbands who look upon every act associated with the sexual organs as a profanation of love. Some of them have led a chaste life, others again, are no novices in matters sexual. Their relations to the female sex have, however, always been of a sensual nature; now they experience for the first time a real and enthusiastic love and are at great pains to dissociate it from all sensual thoughts so as to preserve it in all its purity. Such feelings are capable of inhibiting the erection and of thus causing impotence. The fear of im-

pregnating the wife may also lead to impotence. There are further other psychical processes besides the emotions which can act inhibitorily, f. i. the concentration of the whole mind upon one particular subject. I remember the case of a scholar who was for a long time pursued by a scientific problem as by an hallucination, and who was during the whole of that period impotent and unable to gratify his wife's desire for coitus.

In considering psychical impotence with respect to marriage and the married state, it is, perhaps, best to combine our remarks with a typical and very frequent case.

When may a psychically impotent man marry?—A man who has had occasional intercourse with prostitutes is seized with a fear of impotence shortly before his engagement or marriage. To test his virility he visits a prostitute and finds as a matter of fact that he is impotent. He repeats the attempt several times and always with the same want of success. The virility fails him exactly because he is afraid of his impotence. He thereupon consults his medical adviser and asks him whether he may marry.

What should the attitude of the physician be?—He must take into consideration the whole of the circumstances and the former life of the patient. If the latter is otherwise in good health, if he manifests no signs of severe neurasthenia or psychopathia, if it appears that he has not weakened his virile power by excessive masturbation, and that he often experiences powerful erection, for instance in the morning, or if erection takes place under normal heterosexual representations, the physician need not be afraid to give his consent to the projected marriage. There must, of course, be a further preliminary condition, namely that there exists a pronounced sexual inclination towards the future wife. Great importance must be attached to this; the individuality of the taste and of the inclination must be taken into consideration, since no normal man must necessarily be potent in the presence of every woman. Whether a sexual inclination does exist, on this point every man must, of course, feel for himself; he must know whether he feels attracted to the girl of his choice, whether he would like to touch her, to kiss her, or whether he takes a still higher interest in her. The

occurrence of erection when he embraces and kisses her and a feeling at the genitals which is difficult to describe, can supply a certain indication whether a sexual inclination does exist, but they are no positive proof of virility; some have an erection when they are quietly sitting near and touching their fiancée, while attempts at coitus produce no erection. For all that, erection and the presence of the above-mentioned feeling at the genitals are of importance as evidence of the existence of a sexual inclination.

In contrast to the cases indicated there are others where the physician must not recommend marriage. Where there has previously been much masturbation, where the psychical impotence accompanies a severe neurasthenia or where it assumes the form of an illusion which dominates the patient, and if marked erections are never observed, it is generally better to dissuade from marriage than to acquiesce in the taking of such a risky step. In view of the great misfortune which incurable impotence may cause to married life it is imperative to be extremely careful about the diagnosis; and what is particularly important is to establish whether the impotence is really one of a psychical character only. As a result of the study of hypnotism and suggestion the psychical effects on the functions of the body have recently acquired a greater importance than was formerly attached to them; and just for this reason it is necessary to guard against an overestimation of the psychical influences. There is always a risk in the sort of cases with which we are here concerned that a psychical cause will be accepted where there are others at work. We have not only to think that diabetes, tabes and some intoxications can equally produce impotence, but we must also distinguish strictly between psychical impotence and neurasthenic impotence which is as a rule connected with masturbation and other sexual excesses. Though there are a few authors who refuse to admit the existence of a psychical impotence altogether, regarding it merely as a form of neurasthenia, there are no doubt cases where the psychical factor of the impotence is of such prominence that we can often quite easily separate such an impotence from the neurasthenic, especially that form which is associated with sexual excesses. Such a

separation is the more important as the purely psychical impotence is under the above-mentioned conditions no material contra-indication against the contraction of a marriage, while neurasthenic impotence causes in this respect the greatest apprehensions.

Treatment of psychical impotence.—It is not sufficient when a medical man gives his consent to the marriage of a psychically impotent individual to rest contented with that. The most important thing is to institute at the same time the proper treatment. Psycho-therapeutics, advice and suggestion play here the main part. The patient must be instructed on the subject of married life and particularly on the moral effects which the occupation of a common bedroom with her husband is alone capable of producing on the wife, since the dread of making himself ridiculous in the first night is generally exaggerated. The chaste reserve which in spite of very frequent meetings between an engaged couple precedes the marriage ceremony is immediately after this event followed by an encounter which is exceedingly painful and strange to both sides, especially to the wife, and which is bound to tax to the utmost their sense of modesty. This is usually so much the case in young brides that they have hardly ever either the time or the inclination to ponder over their husband's want of success. For this reason there is no occasion for any man to be afraid of making himself ridiculous.

It is further to be remembered that the desire for coitus is in woman as a rule not so great as many men believe. Unmarried men are usually in the habit of boasting of their conquests among the female sex; one likes to brag to the other about the eagerness with which his mistress awaits his arrival, and how ardently she gives herself up to him, and so on. In this way there arises especially in men whose virility is in some way impaired an exaggeration not only of what a man is capable of, but also of what women expect from men. Though it cannot be said that sexual anæsthesia is the rule with women, there is, nevertheless, as already mentioned, a sexual frigidity present in many of them. We may even admit that while some women await with a curious interest the first performance of the mysterious act the frigidity

sets in later on. But even this curiosity is so much counteracted by the feeling of shyness that no husband need be much afraid of it, and candidates for marriage have no reason to anticipate that they will be required by their wives to show any extraordinary prowess either on the first night or afterwards. The more one succeeds in reassuring the patient on this point, the more it is permissible to allow him to run the matrimonial risk, as the probability is very great that if not in the first night, he will most assuredly later on overcome his unfounded fears and attain the desired result. It is just in these cases that the physician can exercise to the best advantage his psycho-therapeutic qualifications. The effect can be heightened by hypnotic suggestion, but even without it it will nearly always be possible for an experienced doctor to succeed in his object. I should like to call attention to one more point: the words of the physician will as a rule lose their effect on the patient if they are not occasionally repeated. I consider it, therefore, advisable to recommend to the patient to live for some time after his marriage in a place where he can always obtain the services of a psycho-therapeutically experienced doctor who is familiar with the subject of psychical impotence. These services may become indispensable after the first unsuccessful attempts so as to prevent the idea of impotence from taking more and more permanent root; otherwise it is not at all impossible for the impotence to become more or less established. If the individual in question was unsuccessful in the first night, it is as well to inform him that the defloration very often does not take place at the first attempt.

Absurdity of the advice to have intercourse with prostitutes.—Some come to the doctor without having tried prostitutes first. It is nearly always wrong to recommend such patients, as is frequently done, to have intercourse with a prostitute before the consummation of marriage. The danger of infection alone, which in the case of a marriage-candidate is of considerably greater significance, ought to render such advice impossible. The application of a preservative is in the case of this class of patients particularly difficult of accomplishment, for if such preparations must be made previous to coitus the effect is more likely to be an aggravation of the psychi-

cal impotence: the erection which should be utilised for the quick introduction of the member, becomes extinct at the moment the preservative is applied. But apart from the danger of infection, virility in the presence of a prostitute who has, perhaps, applied all the artificial tricks of which a woman of her class is capable in order to enhance the sexual passion of her visitor, is by no means a proof that he would exhibit virility in the presence of a chaste woman. Neither, on the other hand, does impotence in the presence of a prostitute who, perhaps, disgusts one by her shameless manners and obscene language prove that the same individual would be equally impotent in the arms of a woman for whom he experiences a profound moral attachment. It is a very serious matter to send some one with normal sexual feelings and who has never had intercourse before, to a prostitute on the eve of his marriage—even though we ignore for the moment the unethical character of such advice. A gentleman who had been chaste all his life, and had never been near a woman, became engaged. He loved his intended bride most passionately. One day a friend of his recommended him to make sure before the wedding that he was potent as he could not otherwise tell. So he visited a prostitute, when he was absolutely unsuccessful. He repeated this experiment several times, always with the same ill-result. In his great anxiety he consulted his medical adviser, who referred him to me. He had never practised masturbation, powerful erections showed themselves occasionally, there was no organic disease of any description, and not even neurasthenia was present. But he detested prostitutes. As there seemed to be no contra-indication against the projected marriage, I recommended him to go on with it and he was very soon able to satisfy himself as to his perfect virility. I am decidedly opposed to the idea of drawing any conclusions with regard to virility in the married state from the virility manifested in the presence of prostitutes.

The opposite of this also takes place, namely that men who have before their marriage shown themselves potent in their intercourse with prostitutes and other females, suddenly find themselves impotent on the first night and also afterwards. This temporary impotence is, however, fully explained by the great psy-

chical irritation. Why, even in some Don Juans impotence always sets in when they are in the presence of a new conquest, be it the wife or some other charmer. The same thing may happen, however, to the steadiest bourgeois; in such cases the impotence disappears as a rule after a few days.

Co-operation of the wife.—Medical men are just as frequently consulted after marriage on account of psychical impotence as before it. Even after many years of married life psychical impotence may make its appearance, necessitating medical advice. To some extent the action of the latter is in such cases simpler. In the first instance the difficult duty of giving advice in favour of or against a contemplated marriage does not devolve upon him, and he can, besides, reckon as a rule upon the co-operation of the wife in the treatment of these cases of psychical impotence; this, of course, on the supposition that the wife really loves her husband and that she does not wish to exploit his psychical impotence for the purpose of obtaining a divorce from him. It is from the standpoint of therapeutics absolutely indispensable that the wife should in this matter take up an entirely unprejudiced position towards her husband, that she should not urge him to perform sexual intercourse, and that, if she does so, to follow strictly the injunctions of the attending medical man.

Prohibition of intercourse.—It is a common experience that the prohibition of intercourse conduces in relatively very many cases of the kind to a re-establishment of the virility, as in this way the fear of impotence is excluded and the husband regains his self-confidence. Sometimes the occupation of separate bedrooms, or even the temporary parting of husband and wife, appears a desirable proceeding; such a course will, however, but rarely be necessary, and in newly-married people it is best not to have recourse to it both for medical and politic reasons. A separation for a time or the occupation of different bedrooms would appear to be indicated chiefly in those cases where a certain coldness in the affection has sprung up on the part of one of the spouses, and where it is hoped by the separation to rekindle the attraction which woman exercises over man. In ordinary psychical impotence such separation is as a rule not

desirable, for the reason, principally, that the first erections in the husband which occur either spontaneously or in consequence of caresses, can be made use of for the performance of coitus, whereas this advantage is lost if the husband and wife are separated from one another. In such a case the erection will very likely often become extinct by the time the husband has traversed the distance which separates him from the wife. It cannot, however, be denied that in many instances this arrangement can be productive of good results.

At any rate the wife must be patient and wait resignedly until the husband requests the intercourse of his own accord. Such a co-operation can naturally be expected more easily from a wife who has been married for some time than from one newly-married, as she will then sooner make up her mind to speak to her doctor about the matter and he will consequently be able to rely upon her assistance. At all events the doctor must not in such things be too prudish; a single conversation even with a very young wife can sometimes act like a charm, if the virility of the husband depends upon the behaviour of the wife. I recollect the case of a young couple who consulted me when on their honeymoon, a fortnight after their wedding. They had married each other for love. The husband had in his pre-connubial intercourse always been potent, and now as a married man he had suddenly become impotent. He was greatly agitated over the matter especially as his young wife, who was by no means over-shy, had made one or two disparaging remarks. A few words which I addressed to the young lady who had accompanied her husband and had been waiting for him in the waiting-room, to the effect that her conduct was likely to endanger her married life, made her realise the situation and had the effect of producing a normal state of affairs within a very few days. The fear of being incapable is the greater, the more the impotent individual is afraid of losing in the estimation of his wife. Generally speaking, I am of the opinion that an interchange of words between the physician and the wife—unless he occupies the position of family attendant or a similar position of trust—should, apart from exceptional cases, never take place without the knowledge of the husband. As an additional remedy the

advice is worth mentioning that the erection which occurs very frequently first thing in the morning, should be taken advantage of for the purpose of the first attempt at coitus where there is psychical impotence. This succeeds very often without any difficulty; the husband regains his courage, and that is the first preliminary condition. That suggestion may with advantage be used for the removal of psychical impotence is well-known.

Physical and chemical remedies.—It is understood that in the treatment of psychical impotence either before or after marriage all those physical and chemical remedies must be applied from which benefit may be expected. Hydro-therapeutic applications and electricity achieve sometimes a great deal of good, though it is not impossible that the psychical element plays here the principal part. The faradic current is especially recommended in these cases in order to produce erections which inspire the patient with confidence. Of pharmaceutical remedies, cantharides has for a long time enjoyed a reputation as an aphrodisiac. In doses which can really help to cause an erection it is hardly safe to administer the drug on account of the danger to which it subjects the kidneys. There is, however, no harm in giving it in small doses, as by doing so the patient is under the impression that he is taking a powerful aphrodisiac of whose reputation he has, perhaps, heard, while his kidneys are not at the same time in any way injured. The preparation known as yohimbin which has recently been introduced, I have often recommended, but I have never obtained any results from it which could not be attributed to suggestion, and this we may say not only with regard to psychical impotence but also with regard to neurasthenic impotence and the impotence which accompanies the sexual perversions. I have never seen a satisfactory result which could not have been achieved also by the employment of hydrochloric acid or of any other indifferent remedy. Still, it is advisable to prescribe yohimbin to those patients who have confidence in it, if it is only for psycho-therapeutic reasons. There is no need for me to enter here into a discussion of the treatment of that form of psychical impotence which rests not upon the fear of impotence but upon a too intensive mental diversion, upon the dread of the profanation of woman or upon the fear

that impregnation will ensue. Such treatment is obvious from what has been said above, and especially as regards the last mentioned cases a great deal depends upon habituation.

7. *Consideration of the offspring.*

Sexual perversion without degeneration.—

I come now to the question whether regard for the offspring should deter the sexual pervert from marrying. *Krafft-Ebing* and others look upon sexual perversions as a symptom of a condition of degeneration, and there can be no doubt that a degenerate procreates very often diseased descendants. We must, however, remember that even most minute investigation into the family-history of sexual perverts does not sometimes permit any definite conclusions pointing to an hereditary predisposition, unless we are prepared to extend the latter far beyond the limits of reasonableness. As proof we might mention a few prominent persons who though admittedly victims of sexual perversion, cannot, nevertheless, be regarded as degenerates. It is true that the perversion was sometimes with them temporary only, as f. i. in *Goethe* whose poem "Lilly's park" describes in a masterly manner the sensual delights of one's own humiliations, and *Goethe* is supposed to give expression to his personal experiences more than any other poet. There are also several other proofs of episodic sexual perversion to be found in *Goethe*, and yet we do not look upon him as a degenerate individual. Attention has recently been called to *Grillparzer's* homosexuality which had more than a merely episodic character. But *Grillparzer*, neither, has hitherto been supposed to have been a degenerate. The opponents of the degeneration-theory point out further that the ancient Greeks whose homosexual passion was almost one of their national customs were surely anything but degenerate, and there are instances of homosexual phenomena among uncivilised nations to whom the word "degeneration" is not even applicable. We must at any rate admit that there are perverts in whom no degeneration can be demonstrated. Of course, if we are inclined to look upon the occasional migraine of a consanguineous relation as a severe hereditary taint, we should not

have much difficulty in proving almost everybody as a degenerate. We should then be able to establish degeneration not only among the well-to-do classes, but also among the poorer people, not only in the large towns, but also in the smaller ones and even in the country, not only in perverts, but almost in all of us no matter whether there is sexual abnormality present or not. There can consequently be no doubt that there are cases of sexual perversion, and not only episodic ones, without any degeneration. If we bear this in mind we shall be able to look upon perversion as something which is in itself hardly sufficient to stamp the individual in question as hereditarily affected, as one who is a source of danger to his descendants.

It is true that *Krafft-Ebing* has pointed out cases where the perversion was seen in father and son, and that he has on this basis, though with some reservation, evolved the theory that the perversion of the ascendant develops, perhaps, in the descendant in a progressive manner. If we had to expect from the perversion of the parents an increase of the perversion in the offspring, we should certainly have to regard the perversion of the parents as a contra-indication against marriage. The material pointing that way is, however, insufficient, and we have not the right to anticipate with anything like probability that the sexual perversion of the parents will repeat itself in the children.

On theoretical considerations we could only rely if they were conclusive; but even this is not the case. Many qualities are inherited within the same sex, f. i. the growth of a beard by the male children, or the development of the breasts by the female children. We must, therefore, ask ourselves whether in view of this circumstance homosexuality is something which possesses hereditarily predisposing qualities. Homosexuality is after all only the clinical name of a psychical phenomenon: homosexuality of man is the capacity of man to become sexually irritated by the qualities of man. If such a man generates children, the capacity to become sexually irritated by the qualities of man will, perhaps, pass to his daughters; and vice-versa, it might not be impossible in the case of a heterosexual father and a heterosexual mother for the capacity of the heterosexual father to become sexually irritated by woman, to be transmitted to the

female children. If we wish to presume on the strength of theoretical considerations that homosexuality presents the danger of hereditary transmission, it would have to be proved first that as a matter of fact the capacity of becoming sexually irritated by man is transmitted from the homosexual father to his son. This would be conclusive in favour of the prohibition of marriage.

Sexual perversion in tainted individuals.—

But if sexual perversion cannot be regarded unconditionally as something with an hereditary taint, the suspicion must, nevertheless, arise that where it is present, an abnormal constitution does exist which might prove calamitous to the progeny. This, because we know with absolute certainty that very often sexual perversions are present simultaneously with neuropathic and psychopathic symptoms either in the pervert himself or among his consanguineous relations. Idiocy and other mental disorders, epilepsy and delusions, alcoholism and hysteria, suicide, all sorts of eccentricities, cruelty and the like are not infrequently observed in the consanguineous relatives of the pervert, and he himself is apart from his perverse sensations very often of a morbid nature.

For this reason it is necessary where hereditary predisposition is present, to ascertain its extent in order to be able to advise with regard to the contraction of marriage. The more signs there are of hereditary predisposition either in the pervert himself or among his blood relations, the more correct it is to prohibit his marriage. It must, however, also be taken into consideration how numerous the relations in question are. If the pervert has eight brothers and sisters, if both parents also have many brothers and sisters and these have equally large families, a single case of insanity will not count as much as in a case where the parents have no brothers and sisters, and the only brother of the pervert is a victim of insanity. This point is often overlooked, but it plays a very great part if we wish to understand the real value of the hereditary predisposition. Nor could we find a contra-indication against marriage, say, in an occasional headache of the pervert's mother or in an occasional outburst of violent temper on the part of his father. The number of affections regarded as hereditary has recently grown so much

that with a little latitude one might be able to prove an inherited taint in almost anybody. There are, however, on the other hand cases where the danger to the eventual progeny is so great that it is absolutely necessary to dissuade against procreation, even if the pervert himself is apart from his perversion the subject of no other morbid phenomena and the latter are manifest only among his blood relations.

Consanguinity.—The question is also of importance whether marriage should be permitted among blood relatives. Opinion is still divided as to whether consanguinity as such represents an hereditarily predisposing factor. But on one point there is a general consensus, namely that if blood relations wish to marry one another and severe mental and nervous diseases have occurred in their family, the danger of hereditary taint in the eventual offspring is particularly great, and for that reason it will be necessary to prohibit the marriage in such a case. This necessity is greater still if the hereditarily affected pervert intends to marry a girl who is also hereditarily tainted, or vice-versa, if a perverse girl desires to get married to a man who, though sexually normal, is descended from a hereditarily tainted family.

The probability of hereditary predisposition.—Generally speaking, it is hardly ever possible to foretell with certainty whether diseased or morbidly predisposed children will be the outcome of any one marriage. Although hereditary predisposition plays a very important part, we know that healthy parents can procreate diseased children and diseased parents healthy children even though the disease of the parents is one which is reckoned among the hereditary ones. We can only offer a prognosis with regard to the eventual offspring with a certain amount of probability and decide accordingly in favour of or against a contemplated marriage. But when the prohibition of a marriage appears indicated out of regard for the future offspring it must be pronounced with all energy and determination. I go so far as to maintain that a medical man has a right to refuse treatment to a patient so situated where such treatment is a necessary preliminary to the marriage. Let us take the following case: In a homosexual belonging to an ancient noble fam-

ily there is reason to anticipate with very great probability the procreation of severely afflicted children. The man has, nevertheless, the wish to marry, and the employment of preservatives cannot be expected as he is anxious to perpetuate his race. Surely nobody can blame the doctor if he refuses to assist him in procreating children; at least one can hardly say that the doctor is wrong in declining to treat under such circumstances a case of perversion accompanied by impotence. The individual in question should be reminded of the reproaches which his children will eventually heap upon his head. I know cases where children regard it as an unpardonable wrong on the part of their parents that they got married at all in spite of their predisposition to disease, and notwithstanding their epilepsy and many other diseases among their blood relations. Their parents, they argue, must have known what will be the inheritance of their future children, and that severe degeneration would be their lot from the moment of their birth. To a young lady, a patient of mine, given to all sorts of perverse inclinations who frequently behaved outrageously towards her parents, I recommended amid reproaches to show a little more gratitude to her father and mother who were sacrificing everything for her sake and for the sake of her health. She replied as follows: "It is said so often that children should be grateful to their parents for what they do for them, but I know of no reason why I should be grateful. My parents ought, in view of the severe disorders which have occurred in the family, to have renounced the idea of procreating any children, and they have no reason to expect any gratitude from a being which they produced when gratifying their momentary pleasure, and which was bound to be the victim of disease all through its life."

Sometimes it is, perhaps, of advantage to appeal to the egoism of the individual in question, if nothing else will induce him to give up the idea of marriage. It may be a good thing to point out to him what troubles and anxiety he is sure to have with his eventual afflicted children, apart from the severe remorse which he will experience. No matter how much can be expected from a good education it is not possible even for the best of tutors to transform a diseased brain into a healthy one.

Degeneration as nature's healing-process.—

It is true that the objection is sometimes advanced that degeneration, and consequently sexual perversion also, if it is looked at in the light of a degeneration, favours a natural healing process. *Morel's* teaching was that degeneration is meant by a gradual increase through three or four generations, to lead to sterility and finally to the death of the race. But the physician has nothing to do with the question whether the race will become extinct after four generations. Such speculations do not come within the domain of the medical man whose sole duty is to advise his patients to the best of his ability. What is of interest to him is the question: How will the marriage turn out, what will be the constitution of the future children? So many other influences act upon the third and fourth generations that even if we attach very great importance to the views of *Morel* and others respecting the degeneration of future generations, we can afford to ignore them almost altogether from the standpoint of practical medicine.

Male shape of body in females.—There are also other elements playing an important part with regard to the offspring, and though this may not very frequently be the case it is as well to mention it for the sake of dealing completely with the subject. I have already said that in a few cases not only the psychical qualities of the homosexual correspond to those of the opposite sex, but that the physical formation of the body also shows an approach to that other sex. Thus the shape of the breast, of the skeleton and especially that of the pelvis in a homosexual woman, may assume a male character. As the female pelvis is under normal circumstances wider than the male, a condition necessary to facilitate labour, it is important to remember that a male-shaped pelvis in a woman may render parturition very difficult; nor can we entirely ignore the fact that a deficient development of the mammary gland may prove an obstacle to the performance of the function of lactation. Nevertheless, this factor must not have any exaggerated importance attached to it for the purpose of judging homosexuality. One has rather to think that many other women also neglect this duty of lactation, that in fact, so-called "society-ladies" consider it

as something degrading, and that they do not see anything indecent in hiring a wet-nurse and thus in very often depriving some other poor child of its mother. We must further recollect that in the opinion of some the development of the female breast is at least in certain regions altogether retrogressive, and it is consequently unnecessary to attribute great importance to this point in connection with homosexual women.

But what we must take into consideration is that the sexual pervert is sometimes for other reasons also not exactly a suitable person to bring up children. This is particularly true with regard to some homosexual women who incline to all sorts of eccentricities which render them above all unfit to undertake the education of the young.

Summary.—I have in the preceding pages discussed the relations between the married state on the one hand and sexual perversion and psychical impotence on the other, and pointed out the principal contra-indications against marriage. This step must be dissuaded from not only if impotence or insufficient virility on the part of the husband is to be expected, but also if the perversion is likely to disturb the harmony between the spouses to such an extent that a happy married life will hardly result in consequence. The sexual perversion of one of the married partners can injure the relations between both of them in spite of existing virility, just as severely or even more so than castration or impotence caused by organic troubles. Though these latter causes render the procreation of children and (in the case of castration of the husband, principally), sexual intercourse impossible, the psychical conditions of an harmonious married life may continue undiminished, whereas they are absent in numerous sexual perversions, f. i. in homosexuality and sadism; the danger of conjugal infidelity also is in these cases exceedingly great. A marriage must rest upon a moral basis. If the sexual intercourse cannot be performed in a manner satisfactory to the inner desire of both husband and wife, and if the coitus necessary for the procreation of the children is exercised after great reluctance only, a preliminary essential of married life is wanting, quite apart from the fact that sexual intercourse carried out in a way not commensurate with the

desire is bound to have debilitating and injurious effects upon the health. Marriage is also to be prohibited if, where virility is present, the probability points to a diseased offspring. There is, however, no need for paying any regard to the latter if the spouses decide from the commencement to make use of anti-conceptional remedies, or if one of them is sterile. But this is hardly likely to be the case, and preventative intercourse cannot be regarded as an ideal beginning of married life.

In many cases the consent to the marriage must depend on the whole, as I have already said, upon whether an improvement of the sexual perversion can be expected from the married state as such, or during married life under the influence of medical treatment. In many of these cases the medical man is, of course, perfectly justified in considering the question whether medical treatment is to be recommended at all with a view to making marriage possible. It may very well happen that a marriage can be declared permissible after successful treatment. Then there may be cases of patients who have married contrary to medical advice or without consulting a doctor at all, and who are now desirous of undergoing treatment. Under such circumstances the physician is, of course, entitled to make an attempt to cure his patient, if the probability is not so great as to amount almost to a certainty that the offspring will be of a highly degenerate nature. Very often, however, medical treatment is quite hopeless or futile, and then there is only one remedy to be recommended: prohibition of the marriage or dissolution of the same, as the case may be.

Unimportance of episodic perversion.—When consulted, the doctor should avoid being dogmatic. After all, medical reasons against marriage and sexually perverse feelings can be found even in the most normal of men. If one inquires minutely into the sexual life of any given person, male or female, signs of perversion, for instance a tendency to fetichism, will very often be detected. One need not attribute any influence, as regards marriage, to every temporary perversion, but then one must also be careful not to mistake for an episodic perverse sensation a periodical one which, as we have seen, is often of

a serious character. We must remember that nature never proceeds by leaps and bounds. Just as sanity passes into insanity gradually, just as neurasthenia and hysteria are removed from a normal nervous system by numerous intermediate stages, so it is with the demarcation between the perverse sexual desire and the normal.

Even in the presence of a continued duration of a slight perversion that has not produced impotence, the doctor must bear in mind that most marriages between individuals whose sexual sensation is normal, are also not in every respect harmonious. Both sides must accommodate themselves to each other, and it is assumed that this imparts to marriage a high ethical value. Though many a one looks to marriage for his ideal, the unprejudiced observer must admit that it is very rarely, perhaps never, found. Things are in ordinary life totally different than depicted by novel writers, and disappointments are not unknown in every marriage. We must remember that normal men and normal women also do not have themselves anatomically examined before marriage and that they encounter, perhaps, bodies entirely different to what they expected. For this reason I have not attached any very great value to whether the physical qualities of the homosexual man or woman appeal to the sympathy of the other partner or not. That the character and other psychical peculiarities of each spouse also do not become known to the other until after the marriage, is such a common experience, that we hardly need to say much about it. I only just wanted to mention it so as to point out that one must not expect from sexual perverts more than from those who are sexually normal. If there are people who agitate against the whole method of modern marriages, and especially against the absence of a previous thorough acquaintance between the man and the woman, if they endeavour to introduce a reform in this respect, this can undoubtedly do nothing but good; but as regards the question with which we are dealing, namely the significance of sexual perversion to the married state, these endeavours have nothing of importance to do with it, because we have to be guided not by the circumstances of the future State, but by those of the present day.

Unimportance of the non-differentiated sexual desire.—I have already mentioned that certain temporary perverse sensations must not be exaggerated in their importance to the married state. But devoid of all significance is, as I wish to point out again, the perverse sensation which is present in numerous individuals at the time puberty begins to develop, and which I have described as non-differentiated sexual desire. Until far in the twenties, that is up to an age which in the female sex is much above the average marriageable age, and in the male sex about corresponding with the latter, this non-differentiated desire may continue to be present. But as even at that age it may be expected to become differentiated, or as the differentiation may be hastened by marriage, there is no cause to look upon the longer duration of the non-differentiation of the sexual desire as an obstacle to marriage from this point of view. It is, of course, well to consider whether it is merely a question of a longer continuation of the non-differentiated sexual desire or of a permanent perversion and especially also of a permanent psycho-sexual hermaphroditism. The distinction of a psycho-sexual hermaphroditism and of homosexuality from the prolonged non-differentiation of the sexual desire, may, it is true, cause great difficulties, and one must be guided by the whole of the circumstances of the case. What is, however, necessary above everything is, that if the point is doubtful and one hesitates as to whether to grant yet the consent to marriage, the individual in question should observe himself carefully. If this self-observation reveals a slow disappearance of the perverse sensation and a gradual development of the normal sexual desire, the consummation of the projected marriage may be recommended.

Marriage without sexual intercourse.—There are people who have their own views respecting marriage, and who consider it sufficient to look upon married life principally as a domestic partnership, in which the sexual desire need not play any part at all. Thus individuals marry who are already so far advanced in years that sexual desire and the procreation of children are almost out of the question, and we must assume that it is not, on the whole, sexual feelings which bring them

together. There is no blame attached to them. One might, perhaps, conclude from this that homosexuals and other perverts have a similar right to contract marriage chiefly for such social considerations, that is, for the purpose of founding a domestic partnership, but what must be asked from them in the first place is that one side should not deceive the other. Under all circumstances, however, we must hold fast to the principle that we have monogamy only to deal with, such as it exists in civilised countries at the present time, and that we must regard as inadmissible every marriage a part-arrangement of which from the very commencement is the liberty of either side, or of both of them, to indulge in extra-conjugal intercourse, be it in the form of coitus or in that of perverse intercourse. I know married couples who, being on both sides homosexual, entered the married state with the express understanding that they should severally and separately look for gratification elsewhere in the manner preferred by them, but that there should be no conjugal intercourse between them. This is, of course, a domain with which the medical man has nothing to do, and one that is exclusively ethical or sociological. At any rate it is not our business to concern ourselves with such singular views and opinions which are so completely at variance with those universally accepted and with present-day ethics. We no more have to do this than discuss the suggestion made by *Ulrich* that two men shall have as much right to marry one another as a man and a woman have. If we are asked to advise in matters relating to marriage, we have to consider whether the preliminary conditions are present which morality, as we know it to-day, demands, and it is therefore our duty, as medical men to prohibit a marriage which begins by encouraging extra-conjugal sexual intercourse or by regarding it as something natural.

Which doctor is an expert?—So that serious consequences may be avoided, it is often desirable to consult an expert. An expert is not, however, a medical man who has been interested in the perverse sexual desire only, but one who knows both the normal and the perverse desire. Just as alienists who have seen exclusively, or almost so, inmates of lunatic asylums, are easily inclined to attribute insanity by mistake to people with

whom they come accidentally into contact, so he who has made a study of perverse sexual desire only, will suspect everywhere something perverse. He loses the objective and unprejudiced gift of observation, and is easily apt to forget that very often even in normal people there are signs of perversions which constitute in no sense an objection to marriage.

Limits of the medical opinion.—Of course, even an expert and experienced doctor is liable to make mistakes. It must not be forgotten that he has to rely to the greatest extent upon the statements of his patients and not upon objective manifestations. In addition, as we have seen, a great deal depends also upon the attitude of the other partner, for instance that of the wife, in perversion of the husband. It is therefore often a matter of surprise how happy a marriage turns out in spite of the presence of a pronounced perversion. I know the case of a man who suffers from periodical boot-fetichism, but whose sexual desire is otherwise perfectly normal. The wife, who is a very sensible woman, lets him do as he likes during these periods, which only last a few days; she even gives herself up to the perverse acts of her husband, and they live together happily and harmoniously. In other cases, again, the marriage reacts far more favourably on the disappearance of the perversion than the doctor imagined; for instance, in cases of psycho-sexual hermaphroditism. The difficulty of giving proper advice becomes greater still by the circumstance that several factors require considering which it is hard to compare with one another. Let us assume that in a given case there is every promise that in spite of an existing perversion—the husband suffers, say, from a mild form of masochism, but is nevertheless sexually potent,—a happy married life is likely to ensue, but that a degenerate offspring is to be apprehended; we have therefore two totally separate factors to weigh against one another. It is intelligible that it is not very easy here to arrive at a positive result. Or let us take the opposite case: a woman is psycho-sexually hermaphroditic; she has occasional homosexual inclinations, and we are afraid that this is likely to cause disturbance to the married life; with regard to the offspring, on the other hand, there is nothing unfavourable to be expected, as the two

parents and their families are otherwise healthy. Obviously, in such cases the solution is by no means easy. But then it is not the duty of the doctor to give in all such cases positive advice, he need not always say this, that or the other is bound to happen; he will rather often be able to leave the decision to the parties concerned after having given expression to his own apprehensions on the strength of his personal experiences. He is merely asked for his opinion in his capacity of private adviser, and just as he is under no obligation to go in his medical testimony before a court of law further than medical skill and medical science permit, so he is not called upon to do here. If this is his conception of his vocation, it will not often happen that he will give advice which will subsequently turn out wrong. On the other hand he cannot expect with certainty to be always right, because the disturbance in the married state and the degeneration of the offspring can only be foretold with a certain amount of probability, and a doctor, especially a family doctor, cannot always avoid giving positive advice on the strength of these probabilities.

XXIV

Alcoholism and Morphinism in Relation to Marriage

ALCOHOLISM AND MORPHINISM IN RELATION TO MARRIAGE

By A. and F. Leppmann (Berlin)

I. Alcoholism.

Character and extent of alcoholism.—Whereas in discussing the relations between the various groups of diseases and the married state one has to deal with quantities which are known, with notions which are interpreted by all doctors alike, the present chapter occupies with respect to terminology quite a unique position.

There is an involuntary tendency even among professional men to take the meanings of the term "alcoholism" in too narrow a sense and to look upon it as identical with the inability to resist under ordinary circumstances the desire for excessive indulgence in alcoholic liquors, or in other words with dipsomania.

It must, therefore, be pointed out that from the standpoint of science and for the purposes of practice, the word alcoholism includes all the changes, physical and psychical, which arise if alcohol exercises its toxic effect upon the human constitution either for a limited period only or permanently, that is for an unforeseen length of time. The limited effect produces acute alcoholism, the continued or long-lasting effect, chronic alcoholism.

The purely acute form of alcoholism does not interest us here very much. It finds its expression in the condition of intoxication, a condition which is usually not reckoned as a disease.

This purely acute intoxication may, however, become a morbid process if it is created on a mentally deficient basis (imbeciles, epileptics, traumatics). From this point of view it belongs to the chapter on insanity in relation to marriage.

We have here consequently to inquire into the action of alcohol which is not limited as to time, that is the chronic form of alcoholism, in the framework of which single attacks of drunkenness may constitute acute phases.

But for the complete interpretation of the term "chronic alcoholism," it is quite immaterial whether the cause of the chronically toxic action of the alcohol arises from an unconquerable craving for intoxicating liquors or from a harmless and even supposed beneficial habit, from the occupational necessity to taste liquors, or only from constantly working in the midst of alcoholic vapour. It is also immaterial whether the chronic intoxication is the result of an accumulation of acute attacks of drunkenness or of a continuous succession of slight semi-intoxications. The term "chronic alcoholism" in its scientific sense, which we have to utilise here, includes all these possibilities in an equal manner.

It is in reality nothing but a paraphrase of the nature of the chronic intoxication that is contained in *Kraepelin's* words: "Everyone is an alcoholic in whom the after-effect of a potion of alcohol has not yet disappeared by the time the next one begins." But still, this paraphrase shows simultaneously in an ingenious manner the way in which one has to proceed, in order to fix the quantities of alcohol which, consumed in a regular or often-repeated fashion, lead to the chronic intoxication.

Here again we are confronted by a question the answer to which finds no unanimity of opinion among the medical profession, because—one may safely say so—sufficient knowledge is not available. If we desire to do full justice to our subject we must ascertain first to what extent recent experimental psychology has advanced the question of the relationship between the quantity of alcohol taken and the duration and degree of its effects. The most interesting investigations relate to the action of the brain, that is of the organ which in alcoholism is affected in a most characteristic and serious manner.

It would take us too far if we were to discuss here in detail the method of these experiments. In the main, the endeavour is to find out how mental work of a simple character goes on after the administration of definite quantities of alcohol. An examination was, for instance, made into the endurance and quickness at adding up figures, into the ability to learn by heart a series of numbers, to read words passed quickly before the eyes, to write continuously the ideas associated with certain words named, etc.

The first to suffer markedly, after the administration of no more than 30 ccm. of alcohol, was the comprehensive faculty, and, what is especially important, it was observed that the person experimented upon, although not failing to give a reply, always gave the wrong one, simply talking at random. After 90-100 grammes of alcohol the faculty to add up figures was in the majority of cases diminished, the association of ideas varied as to their number, but declined regularly in value, for in the place of notional combinations there came rhymes, synonyms and similar mere "word-associations." Learning by heart was regularly difficult of accomplishment. If so-called choice-reactions were given as a test, that is, if a decision had to be made between two alternatives, the answers of the alcoholised persons came more rapidly—but they were wrong oftener than those of sober people.

In more difficult mental work *Aschaffenburg* was able to obtain considerable disturbances in a very original series of observations, already after the administration of 35 grammes of alcohol. He made compositors who had partaken of this quantity do their work. They all thought that they had worked better than ever, whilst as a matter of fact, they made in 7 or 8 experiments as a rule more mistakes than when in a sober state.

It is also of the highest importance that the effects of 90 to 100 grammes of alcohol consumed, disappeared, as regards the faculty of comprehension and observation after 4-12 hours, but as regards finer mental work not before 12-36 hours had elapsed. After 135-150 grammes of alcohol the action on the capacity for learning extended over 12-48 hours. By carrying out a series of experiments with 40-80 grammes of alcohol for several

days in succession, the result was seen to be an increasing deterioration of the work accomplished—after deducting, of course, the improvement in the work which practice day after day demonstrably achieves.

These experimental results have so far not been disproved. They have been obtained after a careful exclusion of all the known fallacies. The alcohol was administered mostly in the form of Greek wine which does not possess all the additional injurious properties of brandy (causticity on account of too high a degree of concentration, effect of fusel-oil) or of beer (too large fluid quantity). It goes without saying that the experiments were made not exclusively on abstainers who are not accustomed to alcohol, but also on individuals who are in the habit of taking the usual quantities of intoxicating drink. That our preliminary remarks on the meaning of alcoholism are not superfluous is shown by the fact that at a meeting of medical men recently held, at which alcoholism was the subject of a long discussion, one of the speakers disputed the conclusiveness of the experiments made by the Heidelberg school on the ground that they had been instituted on teetotalers only, without being in any way contradicted.

There is consequently no doubt that a chronic alcoholic intoxication would, generally speaking, be brought about by the daily consumption, at one sitting, of 40-100 grammes of alcohol. Translated into potables, 50 ccm. of alcohol are equal to:

About	1.430	litre of	Pilsen beer (3.5%)	
"	1.351	"	"	Munich Hofbräu
"	1.564	"	"	" Spatenbräu
"	1.282	"	"	Berlin Weissbier
"	1.020	"	"	Porter ¹
"	0.417	"	"	Moselle wine
"	0.435	"	"	Hock
"	0.542	"	"	Champagne
"	0.294	"	"	Sherry
"	0.125-0.167	"	"	Ordinary brandy
"	0.100	"	"	Good Cognac
"	0.067	"	"	Strong rum

¹Translator's note: This figure may be taken as referring to the generality of English beers and ales, which are considerably stronger than what is usually called "lager beer."

It would appear therefore that the dangers which arise to the general community from alcoholism, are very serious seeing how many people there are who consume every day a bottle of wine, or from $1\frac{1}{2}$ -2 litres of Munich beer (about $2\frac{1}{2}$ - $3\frac{1}{2}$ pints) or $\frac{1}{4}$ litre (8-9 oz.) of brandy. Though there may be individuals here and there who can stand extraordinary quantities even for a length of time, this is more than compensated by the number of those who can endure less, and does not affect large statistics. Besides, we shall soon see what this "standing a lot" means on closer investigation. At all events we are justified by the results of the above experiments, more than by any other visible evidence of the injury caused to the nation, in giving expression to the following conviction:

Alcoholism is at the present day in Germany as well as in many other civilised countries, the most comprehensive danger to health.

It cannot be said that in comparison to older descriptions, there are now relatively more drunkards seen than in former times, with the effect, say, that the aspect of street-life, or that of public festivities or assemblies has in consequence become more repulsive. On the contrary, in 1878, for instance, *Baer* thought that a satisfactory diminution of "drunkenness" was noticeable all over Germany. Nevertheless, the consumption of alcohol per head of the population has gone up considerably in most European countries during the latter half of the 19th century with regard to which only we possess any reliable statistics.

For Germany the conditions are such that in 1870-1888 (the year of the introduction of duty on brandy) there was on an average a consumption of absolute alcohol per head of the population to the extent of about 5.1 litres annually; after 1890, to the extent of 4.2-4.7 litres. On the other hand, the consumption of beer has since 1872 gone up by more than 1.2 litre of absolute alcohol per head per year. The consumption of alcohol by the population as a whole has consequently become considerably greater in proportion, and if it cannot be said that the number of notorious drunkards has increased likewise, that only means that alcohol is more equally divided among the general population than was formerly the case.

But that is just what is of the highest danger to the welfare of the nation; if drinkers and non-drinkers are strictly separated, the former may in the struggle for existence go down while the latter continue to propagate themselves as a vigorous race. Whereas, the more the difference disappears the more we must apprehend that the whole of the population will become enfeebled, instead of there being a process of survival of the fittest and destruction of those who are useless.

In other countries, by the way, the consumption of alcohol has gone up much more: in France from 2 litres in 1840 to 20.5 in 1895, in Belgium from about 9.8 (1840) to about 12.8 (1895), in England from about 7 litres in 1855 to about 9 litres in 1895.

A remarkable phenomenon is, further, the increase in the consumption of alcohol by women, which is said to be in England rather striking. In Germany it is not very well marked, but decidedly present.

Influence of marriage on alcoholism.—Now, what are the relations between married life and chronic alcoholic intoxication? Similarly as to other diseases, there frequently is a causal connection between marriage and the origin and disappearance of alcoholism.

In the first place, married life at times inhibits the consumption of alcohol. Many men—and it is the men principally who are the victims of alcoholism—drink only because they are accustomed to frequenting public-houses, and they frequent public-houses because they lack home comforts. In their case, marriage is capable of affecting an improvement forthwith. A similar result is achieved by the more serious view of life which the founding of a family produces in many men, particularly among the well-to-do classes, who were formerly in the habit of carousing merely for amusement and for deriving a certain superficial pleasure. Some people devoid of self-reliance and accustomed to take part in the follies of others, may get rid of their injurious drinking habits not in consequence of marriage as such, but by the influence exercised by a clever and determined wife.

On the other hand, it is but rarely that marriage as such and uncomplicated by definite inner causes, leads to alcoholism. But still there are undoubtedly cases where healthy, and also from a psychical point of view average, individuals are so far influenced by sorrow and misfortune in their married life, as to seek oblivion and insensibility in drink.

The circumstances are particularly intricate in the case of people whose inclinations are not of the ordinary kind but who are severely tainted, and pathologically predisposed. It is well known that these have, especially if directly predisposed to dipsomania, a peculiar tendency to fall victims to alcoholism, and although it is wrong to suppose in every drunkard such an original predisposition, the percentage of those among them who are hereditarily degenerate, is still very large.

Here, marriage is seldom of any use as an antidote if alcoholism is already developed. Quite the reverse; some of these degenerates are more likely to be influenced by marriage in the direction of becoming drunkards. The moody individual, the paranoic, the man with a temper and a changeable disposition—they all have in married life no end of opportunities for conflicts and therefore excuses to drown them in drink. She must be a very diplomatic and clever wife who can prevent this.

As to the participation of women in alcoholism, marriage can acquire an importance in an unfavourable sense only. As in most European countries public-house life as well as the prevailing drinking-habits or occupational opportunities do not come into question as regards the female sex, young women given to alcoholism are as a rule either severely pathological persons or individuals who have sunk so low that a beneficial influence on the part of the husband can hardly be of any good.¹ It is, however, imaginable that females not used to alcohol, may feel tempted to follow the example of their drinking hus-

¹Translator's note: This does not apply so well to English as it does to German conditions, for whereas in Germany one hardly ever sees a drunken woman, the sight is in England by no means rare. Nor is it unusual for women, especially of the poorer classes, to frequent public-houses, a thing seldom seen in Germany, where, however, women make more use of restaurants than in this country.

bands etc., especially if encouraged to do so by the latter, as it is well known that drunkards find a delight in causing the downfall of their friends as well as their own. An unhappy married life may in women, too, be the cause of their recourse to alcoholic drink. Now and then, physical exhaustion through repeated labours, or other domestic fatigues, induce a married woman to seek strength from increasing quantities of wine, beer or spirits, until, though otherwise happy, she becomes a chronic alcoholic. We remember having seen such cases where even in the absence of predisposing factors or other social causative circumstances, an insuperable craving for drink and severe manifestations of chronic alcoholism arose through the above-mentioned conditions of fatigue. Sometimes lactation leads to the formation of the drink-habit as on its account delicate mothers are often persuaded by their solicitous doctors and relatives to take beer.

Statistics give us in relation to the causal connection between marriage and alcoholism figures which can only be interpreted with difficulty.

Thus there were in Bohemia in 1899 among 25,292 notorious drinkers 18,253 = 72.17% who were married, 4718 = 18.65% who were single and 2321 = 9.18% widowers. But on the other hand there were 17,741 = 70.22% more than 40 years old. Now, as at the age of 40 and upwards there must be considerably more married men than between the ages of 15 and 40, and, moreover, as among the entire male adult population there are far more married men than single men, an influence of marriage on the number of drunkards cannot be deduced from these figures. Besides, the figures differ in various localities. For instance, there were in Vienna in 1900 among 1247 drinkers, 530 who were single, and 607 who were married, figures which compared with the proportion of single men and married men to the entire population, would probably show a considerably smaller number of married men among the drinkers. Against that, experience teaches that there are many drinkers who do not marry, tramps, beggars, habitual criminals, paupers, etc.

We possess, however, more abundant material for the eluci-

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neurasthenia. Whether the anatomical changes, namely the degeneration of the epithelium of the tubuli seminiferi demonstrated by *Roesch* and *Lancereaux* which determines the procreative faculty, have any material influence upon the copulative faculty, is questionable.

At all events the fact remains that the chronic alcoholic has a weak erection. At the same time, though, the weakling is not at all wanting in desire, and the latter increases rut-like with every single bout of drunkenness. Thus he seeks in his intoxication special excitements to sharpen his impaired sexual power, and this craving for excitements makes him a pervert. In this way the chronic alcoholic becomes an exhibitionist, a pæderast, sodomite or sadist, or he is driven to commit immoral acts with children. Into this latter method of gratification he is, perhaps, also influenced by the circumstance that in the presence of sexually inexperienced persons he has no need to be ashamed of his infirmity.

It goes without saying that in the perverse intoxication-acts exercised under the influence of chronic alcoholism, the combination with congenital or acquired deterioration plays an important part. One of us (*A. Leppmann*) is, however, able from personal experience to point out that he knows cases where the chronic alcoholic degeneration alone led to perversion of the sexual desire, especially when in a state of drunkenness. Thus he had to testify once in the case of a foreign clergyman whose eminent abilities secured for him very early a position of world-wide repute but who sank gradually lower and lower because of his drunken habits. The chronic alcoholism developed in him in the course of time a degenerative symptom in the form of a periodical strong craving for drink. At the height of the latter he experienced, though otherwise sexually normal, a desire for intercourse with males, and he attempted to commit indecent assaults upon boys.

b. Mental partnership.—The mental partnership of married life is interfered with by alcoholism much more seriously and regularly.

From the observations made above with the object of showing in its true light the significance of alcoholism, it follows

that the intelligence, the sensible mode of thinking, is bound to suffer severely from the effects of alcohol.

Expressed in occurrences of our daily life, the results of the investigations by the Heidelberg observers do not really mean anything else than that the alcoholic of a lower degree frequently dazzles, as long as he is under the immediate influence of alcohol, by his quickness at repartees, his wit and his ingenious ideas, but that he lacks the power of quiet discrimination, and what is rightly called "sober" common sense. The plus which he owes to the action of the alcohol imposes, perhaps, upon people to whom he is not bound by close ties, but the married partner who has to share with him the serious side of every-day life, with whom he has to discuss points of the highest moment, is only estranged from him even by this mildest of the results of intoxication. This estrangement increases if larger quantities of the poison begin to exercise their effect, thus still more hindering and impeding the free course of common sense. Where things have gone so far, other results generally manifest themselves which gradually transform the personality in a very unfavourable sense.

In its mildest degrees this transformation escapes, perhaps, as yet entirely the attention of the superficial observer, but it is nevertheless apt to loosen very sensibly the moral ties of the matrimonial union.

To the extent to which thinking becomes permanently difficult, the faculty to grapple with scientific and practical problems is impaired, and the harder it gets to pass quickly from one subject to another, so the sphere of interests becomes narrower and narrower. What mental work can still be executed is devoted merely to the unavoidable duties of the vocation, and these are frequently only discharged in a half-mechanical manner. The husband who formerly stimulated his wife mentally, hardly shares now her daily worries. Nor is he any longer amiable to her as he does not feel comfortable at home. He experiences the mental restraint as a burden which bows him down, and it drives him to the public-house where, though the restraint itself does not leave him, the feeling of it does. This is the sort of people whom the appellation "Bierphilister" suits to perfection.

A certain contrast to this dullard is supplied by quite another type: the alcoholic-neurasthenic. In some individuals, especially such as are nervously predisposed, alcohol creates from the beginning an irritable weakness of the nervous system which presents quite a different picture than the above-described gradual dulness, but which is at least just as injurious to married life. An inner unrest and sadness appears, there is a sensitiveness which renders every contradiction, every noise which the children make, unbearable, and an incapacity to persevere with one's work. The husband demands from the wife considerations which go beyond all reason, while he, on his side, treats her, when in a bad mood, with a harshness amounting to brutal callousness.

These two forms of psychical change may form a combination under various circumstances. They have both alike the result that they lead to a relaxation of the mental partnership of married life, both tend to aggravate the desire for alcohol. For, just as the alcoholic dullard hopes to derive stimulation from further consumption of alcohol, so the nervous alcoholic thinks that more drink will act as a sedative and soporific.

The next stage brings a still far greater destruction of the moral companionship of married life. There is an extinction of all sense of right and wrong, of decency and shame. Self-control and affection disappear completely. The drunkard boasts before strangers about the intimacies of his married life, he neglects his family, he sinks with respect to his mode of life below the level of culture from which he started. This stage of alcoholic intoxication has an extremely close relationship to the decadence into crime.

Crime on the part of one of the married partners—no matter what the nature of the crime is—is always of such immense influence on the harmony of married life that it is necessary in connection with the subject of alcoholism to discuss this point somewhat minutely.

Not only does common crime of every description denote according to well-established opinion such a degree of depravity that fellowship with a criminal is looked upon as a degradation, but the crimes committed by alcoholics are to a great extent

directed against the married partner, or they transgress against the duties of the conjugal union. Then there is, in addition, the interruption of the cohabitation which is unavoidably associated with every punitive imprisonment.

An investigator who has estimated the consumption of alcohol leading to alcoholism at too high a figure rather than too low (*Baer*), has found in statistics dealing with more than 30,000 male prisoners (detained in penal establishments and houses of correction) no less than 43.9% drinkers, and among 2796 female prisoners 18.1% drinkers. Another observer has even increased this figure to 44.7% and established that the worst offenders, those condemned to death, are drinkers to the extent of as much as 59.9%. One sixth of all who were condemned, and two fifths of all serious criminals had committed the crime in a state of intoxication.

Now, which crimes are principally committed in a state of drunkenness or by habitual drinkers? Defamation, bodily injury, damage to property and offences against morality—just those which are most intimately connected with married life. The frequency with which drinkers insult and injure people who are not related to them, as evidenced by the number of cases which come before the law-courts, gives a good idea of the amount of unknown and legally-unpunished ill-treatment undergone by the wives of alcoholics.

The manner in which the alcoholist acquires a special inclination for immoral offences has already been described. But there is something else besides, which induces him to perpetrate crimes of a sexual character. If he is already morally dull, each single consumption of alcohol further influences his psychical state in the direction of a diminution or extinction of the inhibitions. Everything that education, thought and acquired refinement of the senses oppose in man under ordinary circumstances against the crude power of the natural desires, disappears more and more, and in matters sexual the limits of the permissible and even of the desirable are gradually obliterated. Hence the proneness of drunkards to rape, which is unmistakably evident from criminal statistics. From similar motives the alcoholist also commits uncommonly often that other offence

which is so directly injurious to the harmony of married life, although it rarely becomes a matter for judicial consideration, namely adultery. Indeed, it may be said that the latter assumes in alcoholics a particularly unpleasant form, inasmuch as they practise it not secretly, but in the eyes of the whole world without any regard to the conventionalities of life and even with a certain amount of boastful arrogance.

Drinkers particularly who are not without means, are often more than others tempted to do so. Unscrupulous women easily find in them suitable objects for spoliation by means of illicit relations. And many of the older alcoholics who are as a rule already sexually debilitated and outwardly not very attractive, feel too much flattered by the attention of these "ladies" to reflect beforehand what consequences are likely to result from an intimacy with them.

Alcoholism may bring its victims so far as to cause them in their sexual callousness to brutally exceed even the limits drawn by blood relationship. The crime of incest in the form of intercourse with one's own children is, according to our experience, committed almost exclusively by drinkers—excepting lunatics—or, at any rate, under the influence of alcohol. In looking over the records of such cases we are almost invariably confronted with the same picture: an unhappy, miserable family life; the husband a drinker, the wife aged before her time through domestic strifes and constant drudgery rendered necessary by the long idleness of the head of the family, the children utterly corrupt at an early age through the base influence of such an upbringing. One day the father, having come home drunk, demands that his 14 year old daughter should come to bed with him. There follow blows, kicks, finally the half-grown-up girl gives way, if she has not, in consequence of a total want of moral feelings, willingly acquiesced in her father's wish from the very beginning. This is repeated now and again, until the neighbours get to know about it and inform the authorities, or until the wife, mad with rage after an especially severe ill-treatment, runs to the nearest police-station and tells all that she has hitherto suffered at the hands of her husband.

We have even known cases where alcoholism has led to

procuring, the woman in question being one's own wife. And not only does this mean that the rough and unfeeling drunkard tries to utilise every possible source, including the prostitution of his wife, to obtain the money wherewith to buy more drink, but the relations are more complicated. The alcoholic dullard has his benevolent moods during which he would like to be amiable to everybody, and so the idea occurs to him to find a substitute who can grant to his wife the sexual gratification which he himself is no longer capable of giving her. The length to which such an enfeebled alcoholised brain can go is shown by a case known to us where the drinking husband recommended to his wife in all good-nature to enter into sexual relations with her step-daughter. This procuring is only apparently inconsistent with the jealous outbursts of the same individuals—these men are but the slaves of their momentary disposition.

Female drinkers incline in the same way to adultery, and especially in the form of prostitution. Only the misery of such marriages does not last so long as a rule, as the husbands, less patient than the wives where the circumstances are reversed, soon put an end to the shattered married life by an appeal to the divorce-court.

The last act in the tragedy of mental decay which takes place in the drunkard is the outbreak of pronounced insanity.

We need recall here but briefly the individual forms: *Delirium tremens* with its unrest and confusion, in which a total absence of understanding of the surroundings and serious attacks against the persons most closely related to the drinker, may be expected every moment. Hallucinatory insanity of longer duration which, though it presents a better recollection of the environment, is similarly accompanied by a delusional transformation of the consciousness. The peculiar so-called "*Korsakoff's* disease" in which the patients know how to conduct themselves like reasonable and sensible beings, but, at the same time, have no idea to whom they are speaking, where they are and what they have done as recently as the previous day.

So long as such forms of disease exist there can, of course, be no question of a mental conjugal partnership even of the simplest kind. The same result is not quite so flagrant though

perfectly unmistakable on closer examination, in another series of alcoholic mental disturbances, the prototype of which is alcoholic feeble-mindedness. The latter is characterised by a permanent indifference towards one's own vital interests, associated usually with a merry disposition, which, however, easily changes into a plaintive or angry mood, and with a severely impaired capacity for thinking and understanding.

When the patients come to us sober they generally create the impression of being well-behaved and distinctly good-natured persons, they exhibit a certain garrulous and boisterous "bonhomie" and know how to pass over all the dark points of their former life smilingly and with some trifling answer or other. But if these indications are followed up, and the history of these individuals is obtained as it has proceeded in reality, we discover in this very same bright and artful disposition a most dreadful stupidity, a perfect one-sidedness and unconcernedness with regard to their own activity, an inability to estimate the conditions of life, like in entirely ignorant congenital imbeciles, and a complete absence of the will-power. These people do not know and they no longer believe that they drink or have drunk too much, they are convinced of their own perfection, they stick to hundreds of apparent excuses as an explanation why they do not work and why they do not as a matter of fact do anything.

And then, what a transformation, when one of these jovial, good-natured men is under the influence of alcohol! He is then a perfect wild beast. He demolishes the furniture at home, threatens the wife with the kitchen-axe, ill-uses the members of his family, in brief, he is downright raving mad. After having had a good sleep, he explains with some slight embarrassment, that he has had a little difference with the wife over some trifling matter, that she is so domineering, and that he somewhat lost his temper and probably became a bit vehement.

It is rarely that one misses in this picture a trait which, strange to say, is generally absent in the other forms of weak-mindedness, namely jealousy. The alcoholic imbecile whose own conscience as regards conjugal fidelity is often not quite clear, thinks himself justified in reproaching his wife with

adultery, because he has seen her once in conversation with some old friend, or because it seemed to him that some passer-by has touched her caressingly, or because he thought a laudatory observation by some third person a suspicious circumstance. Occasionally this jealous mania becomes the most prominent symptom, while the general intellect is less affected, and one can speak in such a case more of a chronic craziness than of weak-mindedness.¹ As regards the conjugal partnership this form is naturally just as disturbing and even more disastrous than simple mental unsoundness. Quite a number of the cases of crime committed by jealous husbands which are reported in the newspapers are due to this jealous mania of drinkers.

While on the subject of alcoholic insanity, let us mention briefly a special form of alcoholism, the menstrual drunkenness, which represents undoubtedly a mental disorder in the narrowest sense. Though it is quite independent of other alcoholic tendencies, it can nevertheless develop as a consequence of alcoholism.

These are the alcoholic mental disturbances in the narrower sense only. Associated with them are all those cases in which alcohol favours the outbreak of an insanity on the basis of epilepsy or congenital imbecility or that of a paralytic insanity.

In order to obtain from figures something like an idea of the amount of destruction which alcohol exercises on the human mind let one compare the following statistical statements: In

¹Translator's note: The most extraordinary thing of this sort I have ever seen was the case of a patient of mine, a chronic alcoholic, who had occasional attacks of delirium tremens of rather a mild character. On one occasion, when he was already getting better and was able to converse rationally on different matters, his wife came with him to my rooms to ask me to talk to him with reference to the awful charge he was bringing against her in the hearing of the neighbours. He accused her of committing adultery with a man while lying by his (the husband's) side and undisturbed by his presence. I tried to reason with him, but it was all in vain; he persisted with the charge, while the tears were running down the poor woman's face. He was so circumstantial in his details and so sure that he could identify the man, that I almost began to have my doubts as to whether he was not right after all, though the thing seemed preposterous. A day or two afterwards, he had forgotten all about the incident and all he remembered was that he had been to me at the time an uncommon impression, and I shall never forget the scene.

1896-97 there were 917 persons admitted into the municipal lunatic asylum of Breslau on account of delirium tremens, and in Königsberg 119 into the municipal infirmary. In the province of Schleswig-Holstein there were in the years 1883-1888, 2.13% of cases of delirium tremens to every 10,000 inhabitants, altogether 1463 cases. In the high-class private asylum of *Dr. von Ehrenwall* in Ahrweiler there were from 1888 to 1897, 11.4% of the male inmates, or 755 persons, suffering from alcoholic insanity.

It is much more difficult to ascertain statistically in how many insane persons drink has played a considerable part at all. Here the figures of the different observers fluctuate between 8 and 50%, and not at all proportionately to the greater or smaller quantities of alcohol consumed as a rule in the districts to which they refer. But it is just the smaller figures which exhibit considerable fallacies. Whether a case of alcoholism is present or not we can as a rule find out either from the patient himself or from his relatives. But these people are naturally always inclined to maintain silence on the subject of alcoholism or at any rate to make light of it. Then a great deal depends upon the manner of asking. To the question: "Is your son, or husband, a drinker?" almost every woman will answer "no," for she understands by it whether he is often senselessly drunk. But that he drinks 8-10 glasses of beer a day or a fair amount of spirits she—or even he himself—will often readily admit even after having answered the first question in the negative. Besides, it must be taken into consideration that patients with the most characteristic form of alcoholic mental disorder, namely delirium tremens, are frequently rejected on principle by provincial lunatic asylums and transferred to general hospitals, whilst alcoholic imbeciles usually vegetate, as it were, outside the asylums. The average of those in whom chronic alcoholic intoxication has co-operated materially in producing insanity cannot be estimated much less than 25% of all insane persons.

There are nowadays ingenious doubters who interpret the frequent concurrence of alcoholism with insanity and crime quite differently than we have hitherto done. The two latter occurrences, they contend, are not causally subordinate to the first,

but of equal rank to it; all the three of them spring from the same source, from the deteriorated state of the mind, the psychical degeneration which is quite especially associated with hereditary predisposition or with early-acquired defects of the brain. This suggestion has a very plausible nucleus which we have not left out altogether from our former remarks.

Enfeebled brains, degenerate individuals mostly incline to alcoholism and are hit the hardest by it. But directly we begin to understand this, we see what an enormous exaggeration it is simply to place alcoholism, crime and insanity as equally subordinate results of the hereditary degeneration.

The germ of alcoholism, crime and insanity does not lie in this degeneration, as in the seed-corn the germ of a definite plant. The point is rather a congenital absence of harmony of the soul, of equilibrium between desires and inhibitions, and it is by the aid of this absence that a definite injury develops, but only under certain well-defined conditions of life. Now, there are the following possibilities: either the conditions of life are so favourable that the weakness of the original tendency is thereby entirely overcome; education and social conditions are so advantageous that the degenerate remains, nevertheless, a sober and honest man and does not become insane. Or, again, the conditions of life are so unfavourable, bad examples, insufficient nutrition, injudicious treatment so act in conjunction that all the above three injuries set in, and, indeed, independently of one another. Between these two extremes there is, however, a certain average of the conditions of life, in which it may easily happen that the decay into crime or insanity is retarded until the insufficient inhibition leads the mentally degenerate to drink. Then, only when alcoholism with its consequences has been added to the congenital defect, only then do those further signs of decay become manifest. That these cases, in which alcohol plays a very material part as an intermediate cause, are very frequent, medical men who are attached to lunatic asylums and prisons are in the habit of seeing regularly, and we may well say to ourselves: had it been possible to keep these people away from alcohol they would not have become criminals or lunatics.

But alcoholism as such may, though perhaps in the minority of cases, act immediately as the original and principal cause of the insanity or of the sinking into crime respectively. We know that numerous people acquire the habit of drinking injurious quantities of alcohol under the influence of physiological recklessness, through indiscriminate seeking after pleasure, through drinking-customs which it is difficult to disregard, through tempting opportunities, through particularly hard and thirst-producing work, through trouble and misfortune. Even if they were not through this alone to become criminals or lunatics, slight additional causes are then sufficient to bring about, along with alcoholism, the other serious consequences. Social misfortune, special temptation, an unhappy married life, etc., induce the alcoholic far more easily than the healthy man to commit breaches of the law; as to such offences as bodily injury, defamation, and so on, there is not even any need for other co-operating causes. Insanity, moreover, attacks the alcoholic, even if he was hereditarily untainted and originally perfect, sooner than sober persons, if such accidental agencies as injury to the head, syphilis, want or imprisonment come into play. A few figures will confirm this statement. We know that in Norway stringent laws have diminished extraordinarily the consumption of alcohol. In 1830, there was a consumption per head of the population, of 8.7 litres of absolute alcohol, in 1843, 5.7 litres, since 1898 never more than 3.4 litres; in 1896-98, 2.25 litres for each year. The numbers of suicides have decreased correspondingly, though not at exactly the same rate: 1831-35, 97 per million inhabitants; 1841-45, 106; 1876-1880, 72; 1880-85, 68; 1886-88, 66. The admissions on account of alcoholic insanity into the lunatic asylum of Gaustadt went down from 13.7% of all the inmates (1856-60) to 2.4% (1886-88), those into the other Norwegian lunatic asylums from 8.4% (1872-75) to 3.5% (1886-88). In those States of the North American Union in which the sale of spirits is prohibited there were 2.4 prisoners and 3.3 workhouse-inmates to every 100,000 inhabitants; in the other States the figures were 3.7 and 7.9 respectively.

We have consequently not deviated from the domain of

what has been proved on purely scientific and practical grounds, if we included among the results of alcoholism which destroy the moral side of the marriage union, crime and insanity. We may well conclude this portion of the present chapter dealing with drink and the mental partnership of marriage with a few more drastic figures. In lower Austria there were in 1900, 56 out of 606 married male drinkers living apart from their wives, and out of 35 married female drinkers as many as 12 apart from their husbands. As to divorces in countries where dipsomania of one of the married partners is regarded as a ground of divorce, percentages up to 75 are given for this cause and others associated with it.

c. Material solicitude.—The material care of the alcoholic for his family diminishes regularly with the progress of the mental decay. Where the moral decrepitude or unrest has reached a pronounced degree, the earning capacity of the drinker whose vocation centres in himself undergoes deterioration. As officer, employee, or manual labourer he is no longer equal to the demands made upon him and is soon dismissed from his situation. If the mental faculties are fairly well retained and the trouble consists more of occasional excesses, great annoyance is caused by these periodical outbreaks of drunkenness, especially among the better classes, though a certain amount of latitude is otherwise not denied in higher circles in matters relating to alcohol. It is rather the less serious forms of alcoholic excess which may severely damage the material position of the single individual.

But if we wish to properly appreciate the significance of alcoholism to the material side of married life, we must take into consideration a field which we have hitherto left out of account, namely the physical consequences of alcoholism which involve a premature incapacity to earn a livelihood and a shortening of the life-duration.

Very few organs escape the disease-producing effect of this poison which is so destructive of albumen.

Beginning with those which the alcohol reaches first, namely the digestive tract, we find at its very portal an inflammation of the mucous membrane which extends in reality down to the

stomach. In the latter the disease manifests itself by chronic gastritis which is very rarely due to any other cause than chronic alcoholic intoxication, and which alone is sufficient, if demonstrated with certainty, to give an almost sure indication of the true state of affairs.

The intestines suffer, as a rule, rather less from the poison, but the liver, on the other hand, correspondingly more. It is generally swollen in alcoholics, partly through the congestion of blood, and partly—this being principally the case—through excessive accumulation of fat. Fatty degeneration of the liver, too, it is safe to say, is an almost infallible sign of alcoholism.

Of greater seriousness is cirrhosis of the liver which apparently occurs in spirit-drinkers only and seems to be connected with certain extra-poisons contained in the alcohol.

This restriction does not apply to cirrhosis of the kidneys, which is, besides, not so exclusively attributed to alcoholism.

To the vascular system alcohol causes enormous injuries, by giving rise to fatty degeneration and inflammations in the myocardium, which rob it prematurely of its activity, and to a rigidity and friability of the arteries with all their consequences.

The nervous system is affected particularly severely. We have already mentioned the mental disorders, among which delirium tremens occupies the foremost position on account of its dangerousness to life. The chronic inflammation of the pia mater and the hæmorrhagic exudation from the dura mater are both of them characteristic drunkards' diseases. But it is more frequently the nerves themselves which become inflamed under the influence of the alcohol, and thus arise the terrible pains in the extremities which are often for years wrongly attributed to rheumatism. The inflammation of the nerves leads further to awkwardness of the movements, to weakness of the muscles. To this is added the well-known tremor of the fingers, which is very troublesome in finer work from the very commencement.

Of the organs of the senses, it is especially the eye which is injured, as alcohol alone may lead to impaired vision through atrophy of the optic nerve, and in conjunction with abuse of tobacco, to extreme amblyopia, or even to complete blindness.

Of other diseases which seriously injure the earning capacity or shorten the duration of life, and in the origin of which alcohol is often a co-operative factor, we may name the following: gout, general paralysis of the insane, tabes dorsalis, chronic bronchitis. Of what importance all these maladies are to the married state, has already been described in previous parts of this work.

Besides, there is hardly a bodily illness upon the origin and course of which alcoholism—excepting of course the medically prescribed administration of regulated quantities of alcohol—does not exercise an unfavourable influence. It is, just to mention a few examples, an old-established maxim in medicine that genuine acute pneumonia, as long as it is confined to the one side, always heals up in adults except in alcoholics, because the heart in the latter is not equal to the increased demands made upon it.

It is at the present day generally recognised that that other scourge of humanity, tuberculosis, attacks drinkers more readily and overpowers them more quickly. A third disease of the masses, general nervous debility, is also not only causally closely connected with alcohol, but in its course, too, it is most injuriously influenced by it. We can very well say in this respect: Even such small quantities of alcohol as a healthy man can take with impunity, act upon the man with weak nerves as a poison.

Very remarkable is the intimate association between alcohol and sexual diseases which *Forel* has demonstrated by means of figures. As the alcoholic or the person who is under the occasional influence of alcohol, makes up his mind more readily and with less caution to indulge in extra-conjugal sexual intercourse than the individual who is sober, he is also more subject to the dangers of that intercourse. And what sexual disease means to a married man as regards his own health and happiness, the health of his wife and that of his offspring, we need not enter upon in this place.

There are two more consequences of alcoholism which are of the highest importance to the material welfare of the married state, and which require on that account special consideration. They are suicide and accidents.

Both have that in common that their numerical relationship to alcoholism is not easily ascertainable by statistics.

If we examine the statistics of suicides we find as a rule that drink and drunkenness account as causes, only for about 9.10% of the cases. Though this alone would mean for Prussia from 400 to 500 cases, the real state of affairs is certainly far worse. For we must also include those cases in which alcoholism leads in an indirect way to self-destruction either through pecuniary losses, moral decay (suicides in prisons or through fear of punishment) or insanity and a corresponding percentage of the very numerous cases of suicide from unknown causes. It is surely one-sided and superficial to impute the increase in the number of suicides which has been observed in the last few decades to the increase of alcoholism, but the above-quoted decrease in those countries where it has been possible to diminish materially the consumption of alcohol cannot altogether be an accident. Of great value is also the experience of *Heller* who found that of 300 suicides examined post-mortem, the majority of all the males and especially of the men over 30 years of age (55% and 73.6% respectively!) exhibited the well-marked signs of chronic alcoholism. It must be admitted, though, that this material emanated from a port-town given to much grog and brandy drinking.

As regards accidents, statistics leave us apparently quite in the dark. The Prussian statistics give among the fatal accidents for 1869-73, 4.66% as caused by drink, those of Saxony for 1847-76, 6.2%, and those of Switzerland 6.5%. It is true that in Switzerland in 1893, 18% of all the accidents could be attributed to drink, but against that *Waldschmidt* found in an exact calculation made by him among 955 industrial accidents only 11 which were due to drink.

In reality we must, in order to arrive at correct results, distinguish strictly between the effect of drunkenness and that of alcoholism. A drunken workman is sent home and not allowed to work at a dangerous trade wherever there is some amount of supervision. On the other hand, it is those consequences of the drink habit which do not every time bear the impress of an acute intoxication, that play here the most important part, be it that

they are the immediate after-effects of the usual evening drink or of the Sunday bout, or the permanent injury to the entire constitution which manifests itself especially by clumsiness of the movements and by an imperfect presence of mind in the face of a threatening danger. In the Berlin high-building trade 25,295 accidents have been statistically dealt with. It was ascertained that by far the most of them had occurred on a Monday, the day after the day of rest, which should in reality be a day of recreation and recuperation; the figure was 18.7% against 16.6% on Fridays, and so decreasingly down to 15.6% on Tuesdays. Can anything else account for this but the excessive drinking on the Sunday? Another point. Before the breakfast interval there happen 13.6% of the daily accidents, after the same and until mid-day 23.5%, from then until tea-time 21.8% but afterwards until work is stopped 37.6%. This cannot be due only to fatigue in consequence of which the workmen take a wrong step or make the scaffolding less secure, etc.—there must be something else besides, and that something is the alcohol of which more or less is partaken at the different meals.

Really perplexing is the comparison of quite recent statistics by *C. Fraenkel* with those of older dates. *Fraenkel* has gone through the numbers of accidents of the trades unions association for the 8 years from 1894 to 1901, altogether no less than about 400,000 cases. Curiously enough the day on which most accidents had happened proved to be Tuesday, then followed Saturday, Friday, Wednesday, Thursday, Monday, Sunday. At the first glance this seems an extraordinary succession, but it is consistent all through, even if we take the year 1901 by itself. The explanation is as follows: The annual reports of the mining authorities show that a large number of workmen do not turn up on Mondays, on which day they go on the spree. That is why Tuesday is the principal accident day!

Where an accident has happened, it is again alcohol which prevents in the first place the recovery from the consequences thereof in the sense of a complete restoration of the working ability. All experts in traumatic diseases know with what difficulty a man accustomed to alcohol, overcomes for instance the complaints arising from slight injuries to the head or the pain

in the soft parts that have been bruised. That the joint action of alcoholism and accident, without any hereditary predisposition or without an original tendency to degeneration, is sufficient to produce severe nervous infirmity, may be regarded as indisputable.

But not only does the chronic alcoholic much sooner than the sober man find himself in the position of having to relinquish the maintenance of his family entirely or partially, he also occasions at the same time a drain upon the family resources, which is not caused by the expenditure for drink only. There arise also expenses in connection with medical treatment, journeys to watering-places, the stay at some institution, civil and criminal proceedings; and how often is the public-house life associated with all sorts of expensive indulgences, chief among them being gambling and women!

It is difficult to ascertain by anything like large figures how many people die prematurely from the effects of alcohol, because mortality statistics too often conceal deaths from alcoholism under such columns as suicide, accident, insanity, heart-disease, arterio-sclerosis, disease of the kidneys, disease of the liver, chronic nervous diseases, etc.

But there are other very conclusive statistics, namely those on the average duration of life in individuals who are employed in the alcohol industry, owners and workmen or employees of breweries, distilleries, wine and beer-shops, hotels and public-houses. It appears that brewers, landlords and landladies have a considerably lower expectation of life than the average population. To give a few of the more striking examples: An average inhabitant of Munich at the age of 20 may expect to live yet nearly 42 years, a Munich brewer only 22.38 years, a Munich landlady 32 years. In England the mean expectation of life at 25 years is 36.1 years, that of publicans, etc., only 31.3 years. And it is worth remembering that these are people who are as a rule in comfortable circumstances, in whom there are presumably no special occupational injuries to be apprehended except the temptation to drink.

In all the alcohol industries taken together, the expectation of life of individuals 25 years of age is according to official Prus-

sian statistics only 26.23 years, that of the other male population 32.08 years.

The insurance companies reject notorious drinkers. Some foreign ones even grant to total-abstainers special reduced terms. *Hellenius* has published a number of tables which show that total-abstainers have, in comparison with (alleged) moderate drinkers a materially higher expectation of life.

It would be a thankful object-lesson on the part of our national insurance offices, possessing, as they do, the necessary material for the purpose, if they were to publish statistical information on the relation between alcoholism and the premature decline of the earning ability. One of us has as confidential adviser to the Berlin Assurance Institute to examine yearly a great number of nervously-diseased applicants for annuities among whom a strikingly large percentage show a more or less complete participation of alcoholism as the cause of the infirmity. He is not however in a position to supply any definite figures.

Absolutely unreliable are the drinkers' statistics of most of our poor-law authorities. The percentage of those who obtain relief fluctuates here between 1.7 and 90%. In a workmen's colony for unemployed, 77% of the colonists—about 5500 in the year—attribute the cause of their poverty to drink.

In the States of Ohio and Illinois where the drink trade flourishes, the credit deposits of the public savings-banks amount to 23.5 and 34.6 million dollars respectively; in the State of Maine which has 5.5 to 6 times less inhabitants, but where the trade in alcoholic liquors is prohibited, to 53.4 millions.

Influence on the offspring of alcoholics.—

As the last—but not the least—object of marriage we gave the procreation and education of a healthy and useful progeny.

On the strength of the fact that the sexual organs of drunkards exhibit certain signs of structural atrophy, the principle has for a long time passed muster that the marriages of alcoholics are less fruitful than those of the rest of the community. A recent and careful work prepared in France has, however, proved the opposite fact by an examination of the conditions of 402 Parisian working-class and pauper families,

including 81 families of drinkers. According to that, drinkers have more children than non-drinkers. Strange to say they have more often multiple births, and strikingly more boys than girls. But they also have considerably more miscarriages, premature labours and dead children, the latter to such an extent that while they amount in drinkers to 5.2%, in non-drinkers they hardly reach 3%. On the whole 42% of drinkers' children die before they reach the first year, that is about 14% more than the children of other people.

The offspring of drinkers is therefore materially diminished at a very early stage, in spite of the original greater fertility of such persons.

An extremely high percentage turn out physically and morally deteriorated. Many large family-trees of drunkards have been published, which disclose a frightful picture of this degeneration in the offspring of drinkers. Quite recently *Aschaffenburg* has communicated such an example: Of 5 children of a drinker, 2 were healthy, 3 drank and died suddenly from heart-disease. In the next generation 3 were prostitutes, 1 a ne'er-do-well, 4 drinkers, 3 died early and only 5 were healthy. Still more terrible pictures are described by *Morel* and *Legrain* who believe in an almost regularly progressing degeneration of drinkers' families. They maintain that after some generations plagued by nervous and mental diseases, the race which consists finally only of imbecile, insane and convulsed persons, dies out altogether. These are gross exaggerations, yet what *Legrain*, *Demme* and many others produce as undoubted facts, must be taken quite seriously, for all observers have afterwards confirmed this. Only an insignificant number of drinkers' children are physically and mentally normal. 17.5% according to *Legrain*, 6.4% according to *Demme*, 11.7% according to *Demoor*, etc. Quite a special part is played among the physical degenerative forms in the offspring by the tendency to tuberculosis and to epilepsy, and among the psychical ones, by that to drunkenness, crime and imbecility. Thus *Arrivé* found tuberculosis in 10% of drinkers' children, but only in 1.8% among the children of healthy parents, and among the former 10% with nervous or psychical degeneration respec-

tively; *Grénier* found among those tainted with drunkenness only, 25% drunkenness and 27% mental disorders; *Sullivan* among the children of female drinkers, 4.1% epileptics.

More striking are the numerical proofs if we examine among drinkers, epileptics, idiots and criminals into the hereditary taint of drunkenness. Here there are so many investigations at our disposal that the results cannot possibly be enumerated fully, without becoming tiresome and sacrificing a great deal of space.

The numbers with regard to hereditary predisposition through drunkenness fluctuate in drinkers between 21.4 and 75%, in idiots between 14.1 and 65%, in epileptics between 7.9 and more than 60%, in young criminals between 23-50%. *Mönkemöller* found in the reformatory school of the town of Berlin, hereditary taint with alcoholism in 67.2% of all the pupils; *Schmidt-Mounard* ascertained that of 126 children placed in a school for backward boys and girls, 19% were descended from drunkards, and 14% from dissolute families. The drinkers' children, moreover, were those who learned with the greatest difficulty. Finally *Strohmayer* has very carefully and minutely studied the histories of 56 families suffering severely from nervous and psychical diseases, and found that in no less than 16 the original founders of the family as far as he could trace them, had been drunkards.

Overwhelming as these figures are, so it is difficult to interpret them.

In the first place one might think of the possibility that a race whose vitality has sunk below a certain level, decays and degenerates according to fixed laws; first one generation becomes alcoholic, then the next epileptic, and so on until the race has died out. In this way the alcohol would possess no causal importance at all in connection with the decline of the offspring. This assumption is in itself somewhat extravagant, and it is totally devoid of foundation. It is, indeed, an every-day occurrence that families become annihilated through psychical deterioration under quite different forms in which alcohol plays no part whatever, and it is not in the least possible to lay down a fixed law for this degeneration. On the other hand it would

be altogether arbitrary to maintain that, in every case where alcoholism of the parents has led to nervous decay in the children, the alcoholism has been the expression of a commencing degeneration of the race. For there are plenty of cases where the fathers who were free from hereditary taint and capable men originally, have become drinkers solely through their occupation or other accidental circumstances. *Bieraccini* has closely observed two such families, and every experienced family practitioner or alienist could furnish similar material from his own practice.

There is, further, another poison which, as we shall see in a subsequent chapter of this work, can bring about in the offspring of chronically intoxicated persons exactly similar conditions as alcohol—namely lead, and that surely does not play any part in the natural degeneration of families.

But there is something more. Cases are known where a diminution in the degree of drunkenness of the father was accompanied by a corresponding improvement in the hereditary predisposition of the children. Thus *Fournier* describes the family of a man who between the age of 20 and the early thirties, was addicted to heavy drinking, and who procreated during that period two severely degenerate and mentally backward sons, but who afterwards became less of an inebriate and brought into the world one child that was almost normal, and two who were perfectly sound.

It must therefore be concluded that alcoholism of the parents is bound to exercise some unfavourable effect upon the progeny.

Alcoholism is bound, where it has arisen on some decadent basis, to determine the degree and form of the future hereditary degeneration. Because the four special forms: epilepsy, idiocy, drunkenness and an early tendency to crime, appear in the children of drunkards undoubtedly far more frequently than in the offspring of other degenerates, say, of lunatics, neurasthenics, or hysteric persons. But where the drink-habit is purely acquired, it must be capable of exercising an immediate effect upon the physical and mental qualities of the children.

It is perfectly clear that we must deduct here many a thing

before we are entitled to speak of an hereditary influence in the narrowest sense, of an injury to the germ-cells. For drinkers' children are often subject to many other injurious influences, often from their very birth and occasionally even from their antenatal existence.

Nicloux has proved this in animals very distinctly. By introducing through an œsophageal sound alcohol into pregnant guinea-pigs, it was possible after 5 minutes to detect alcohol in the liquor amnii, the poison thus passing to the fœtus.

Laitineu accustomed guinea-pigs to alcohol at the beginning of their pregnancy, but discontinued the practice afterwards. The otherwise healthy young eventually proved to be more susceptible to diphtheria-toxin than the young of animals which were free from alcohol.

Mariet and *Combemale* made a bitch in the last weeks of her pregnancy drunk. She gave birth to 7 puppies of which 4 were dead, two healthy "but possessed of very little intelligence," and the last was physically and mentally backward. The offspring of this latter animal were, as we shall see later on, markedly degenerate.

With regard to the children of female drinkers we have already had something to say. It is, further, maintained that such children imbibe the alcohol along with their mother's milk, and that their vitality is thereby considerably impaired from the very commencement of their life. But this seems to be only rarely the case. *Rosemann* has demonstrated that the administration of alcohol to the mother neither alters the constitution of the milk in general, nor effects an entrance of the poison into the milk, provided the quantities taken are moderate. If the amount consumed is fairly large, only about 0.2 to 0.6% of the quantity taken passes into the milk. If a few observers maintain that children suckled by wine and spirit-drinking wet-nurses, develop convulsions on account of the quality of the milk, this assertion seems in view of the above results to be rather risky. In such cases the suspicion is more justified that the sucklings have had alcohol given to them in a more direct manner—besides, sucklings are in any case easily attacked by convulsions. On the other hand it is worth considering whether mothers who

are in the habit of taking larger quantities of wine or beer, say between 7 and 9 pints of beer or from 2 to 2½ pints of wine, while suckling their children, and who transfer thus to the latter about 1 gramme of pure alcohol daily, do not in this way cause injury to their offspring. One would think that just in the first months of their existence, it is dangerous for children as regards their subsequent development, to become accustomed to a powerful drug—be the single dose administered poisonous or not.

That the inability of the mothers to suckle the children at all, which is to the latter so full of danger, has some connection with alcoholism, is not improbable, though it can only be asserted with great caution. *Bunge* found, it is true, among a large number of suckling women 32% who were accustomed to alcohol, but among those incapable of suckling 65%, including 6% drunkards. He demonstrated further that women incapable of lactation are descended comparatively often from male or female drinkers. His statements are, however, in need of confirmation at the hand of a larger material.

Of greater seriousness are at any rate the other injuries which usually affect drinkers' children. Poverty and indigence often receive them on the threshold of their arrival into the world, their upbringing is neglected, because a disordered state of affairs prevails in their homes and often enough because the father dies prematurely. They are frequently ill-treated by their drunken parents, and in a specially hurtful way by blows on the head—on this account (presumably) *Mönckemöller* found in ⅔ of all the reformatory children scars on their heads. They are often almost forced into a life of crime, and encouraged from their youth to indulge in strong drink.

This last point is a particularly sad one. Children stand alcohol exceptionally badly, they acquire even if they are accustomed to only small doses of wine, beer, etc., all sorts of morbid defects such as indigestion with pronounced swelling of the liver, they become adipose, and suffer frequently from severe nervous symptoms. A recent investigator claims even to have ascertained by careful calculations that the brain of children accustomed to alcohol is in all its diameters by 8.12% too small and that their increase in weight amounts to only 60% of the aver-

age. That the mental development of alcoholised children suffers severely is beyond all doubt. And now let us bear in mind to what an extent habitual drinkers, out of sheer heedlessness or from a rough enjoyment of everything coarse and incongruous, encourage (often even among the "better classes") the consumption of intoxicating liquor by children. Thus *Kassowitz* saw an 8-year-old child of a drinker which had received daily two glasses of wine at mid-day, and a glass of beer and a glass of wine in the evening, develop, in the course of a pneumonia, genuine and unmistakable delirium tremens, and the same thing, with a fatal result, in connection with influenza, in a boy of eleven, the son of a publican, who was equally accustomed to large quantities of wine. In the child of a spirit-vendor which was fed with brandy, the liver became so enormously swollen that it filled half of the abdominal cavity. Such an encouragement of children to take drink does not, however, occur only in isolated depraved individuals but among large sections of the population which are saturated with alcohol. A striking example is furnished by the home-workers in North Bohemia who are given to alcoholism through hunger and poverty and who are in the habit of feeding their infants with a soup made of brandy and bread or potatoes, to make the poor babies sleep all day so as not to disturb their mothers from their work.

It is not therefore necessary that what moral depravity and what bodily and mental disease befalls the children of drinkers, must absolutely be due to an hereditary disposition. But that there are very many such children which bear from their birth physical signs of degeneration, can also not be the result of the treatment which they receive, for there are plenty of cases where for instance children of drinkers become epileptic without imbibing alcohol themselves and without receiving blows on the head. Some injury or other must consequently be transferred to them directly by their alcoholic procreators.

This "something" is explained in different ways. Some believe that the entire organism of the procreator is so weakened by the poison that he can produce only weakly descendants. Others say that the poison accumulated in the body of the procreator, acts directly on the germ plasma of the sperm or of the

ovum which is intended to form part of the body of the offspring. The difference is very considerable, for the germ-plasma remains continuous from generation to generation, and it is highly questionable whether it can get over an injury completely. If alcohol has therefore attacked this germ-plasma, the probability ensues that the future generation will be of a deteriorated kind, that they will bear a curse of which they can never get rid. The latter view is most likely the correct one.

It is certainly very plausible that alcoholic infirmity, like all other infirmities, diminishes the prospects of a healthy offspring. But this would explain in the first instance not the peculiar effects of alcohol upon the welfare of the children, but only the influences which it has in common with injurious agencies.

There are, besides, cases in which body and mind of the alcoholic himself offer to the poison a wonderful resistance, regular arguments in the hands of those who oppose every movement of an anti-alcoholic nature, but where the progeny nevertheless undergo a rapid process of annihilation. Thus the case of an American farmer was recently reported who had remained hale and hearty, in spite of his daily consumption of nearly a pint of brandy, up to his 91st year. But of his 7 children, two died in childhood, one became epileptic and died in his 15th year, one is feeble-minded, one suffers from chorea, one is careless and given to drink, and the seventh is passionate and a vagabond. A case of a similar character though not quite so striking is known to both of us.¹

It has been attempted in two different ways to solve the problem of the immediately deleterious influence of alcohol upon the quality of races. First, by experiments on animals.

Of great value are in this connection the observations which

¹Translator's note: I cannot resist the temptation of mentioning here the case of a patient of mine, a gentleman of education, who occupies a very important position. I have attended him for the last ten years for chronic alcoholism and its consequences, which have only recently commenced to trouble him seriously. The quantities of alcohol he consumes are simply phenomenal, and no matter how much he takes—sometimes as much as a whole bottle of Scotch whisky—he has never absented himself from his work or been drunk in the real sense. When he feels bad, a stiff dose (as he calls it) soon puts him right, though he knows that he will feel worse afterwards.

have been made with reference to the physically and mentally backward bitch that had already been intoxicated with alcohol while yet in her mother's womb. (See above.) She was allowed to grow up free from the influence of alcohol and to pair with an abstinent healthy dog, nevertheless the whole of her first litter of puppies was worthless. One of them had club-foot, cleft palate and twisted toes, one a patent ductus Botalli, one developed muscular atrophy in its hind legs. *Hodge* paired alcoholised dogs and obtained a brood which was epileptic, stupid, snappish or dwarfish.

The other method of investigating whether the alcohol consumed by the procreator exercises an immediate toxic effect upon the germ-cell is to examine into the kind of children procreated by otherwise healthy parents while in a state of acute intoxication.

That such children are dull and of reduced value was believed already by the ancients, and this view is also at the present day shared by popular tradition. That it is correct *Bezzola* has proved in a characteristic but indisputable manner. He has first of all ascertained the birthdays and thus the approximate periods of conception of 68 imbeciles in the wine-growing district Graubünden. Next he calculated how many births take place on an average every month. The result was that half the number of imbeciles had been conceived at about the period when most drinking takes place, namely at New-Year, during Carnival time and when the grapes are gathered. After that he investigated how matters stand with regard to a material of many thousands of imbeciles from the whole of Switzerland which country is wine-land to some extent only. Here also it turned out that the imbeciles-chart began to rise above the normal chart in January, that in February (Shrove-tide) the number of imbeciles who

He complains principally of gastro-hepatic troubles and neuritic pains, but his vital organs with the exception of a slight enlargement of the heart are sound, and he only rarely shows signs of albumen in the urine. He is rather reticent on personal matters, but I understand that he is a widower, that he has lost one or more promising sons, all the family he had, though he comes of a long-lived stock. His age is about 70, and except when under the immediate influence of alcohol, he delights in discussing political and similar matters.

must have been conceived at that time increased suddenly, without there being a simultaneous increase in the number of births. April, May, June (wedding-months) brought a common ascent in both charts; July, August, September, showed a retrogression which affected principally the imbeciles-chart (plenty of work and few holidays!) In September the imbecility-chart stands far below the general chart—then it rapidly rises again in October (the time of vintage) considerably above it, to sink afterwards quickly—again till January.

At the discussion on this interesting communication at the Vienna Congress against alcoholism a medical man said that the teachers in wine-growing districts of lower Austria know that a material of very bad scholars in any one year denotes a good vintage 6 years previously.

It was necessary to dwell at some length upon these details, for it is practically of the utmost importance that alcohol can exercise its poisonous effect upon the offspring direct by the intoxication of the germ-cell and without impairing the paternal organism. The foregoing facts will in other ways, too, furnish an appropriate object-lesson as regards the consumption of alcohol by married persons.

Our last researches, however, impel us to go a step further in the consideration of the relations between marriage and alcoholism. The more regard we pay to the offspring in its most distant generations the more we are reminded that marriage is not a private affair of many single individuals, an arrangement for the fulfilling of the definite desires of each separate man or woman. Rather must it be regarded from the point of view of an institution which, while making the perpetuation of the species dependent from definite material considerations, provides at the same time for the self-preservation of the races and nations.

Influence on the race.—The question therefore arises: How does the intrusion of alcoholism into married life agree with the race-preserving and race-promoting object of marriage?

Is a certain number of alcoholic marriages to be regarded as an essential factor in the anticipated or already present decay of the race?

Racial biology is a young science and it cannot yet offer in every department imposing experimental figures. For this reason it is not in a position to supply very many indisputable proofs of the race-deteriorating effect of alcoholism.

We do know that in the case of savage nations which give themselves up without discrimination and without restriction to intoxicating liquors, the injuriousness of which is unknown to them, this is looked upon by universal consent as the main cause of their annihilation. But this presupposes conditions which do not apply to civilised peoples. In the latter the circumstances are very unfavourable to the practical demonstration of race-deterioration through alcoholism. It has been pointed out that the increase in the consumption of alcohol is accompanied by a somewhat corresponding increase in certain countries in the number of persons unfit for military service. Retrogressions in the average height have been observed among certain classes of the population and attributed to the drink-habit. But this is no proof, for it is quite arbitrary to select just one of the many injurious agencies which affect civilised mankind in order to explain a particular phenomenon. Such a proceeding is the more uncritical as the explanatory alterations, for instance the diminution in the average body-height, is in itself no proof of the deterioration of the race. Nor is there much evidence that alcohol is injurious to the race, in the fact that certain nations which do without alcohol (the Tartars in Russia) are perfectly healthy and able-bodied. What we might, at the most, make use of is *Gyllenskiöld's* statistics according to which the number of persons rejected as unfit for military service in Sweden on account of weakness and shortness of stature, has up to 1840 increased steadily, but decreased step by step since 1851 and principally from 1860 to 1868 (the statistics do not go further). As the temperance movement began in Sweden about 1830 it is at all events not impossible that the improvement in the military fitness is due to a diminished average intoxication of the germ-cells of the persons conceived in the subsequent years. But then, it is just as possible that the latter have, on account of the better conditions created by the reduced alcoholism of their parents and among which they have grown up, developed into stronger men.

The difficulties to obtain data that are more certain in their interpretation are enormously great. Until racial biology will have conquered them we must derive what help we can from theoretical considerations.

But all at once we have investigators coming upon the scene with an assertion which is plainly contrary to the view that we must anticipate from alcoholism an injurious effect upon the welfare of the race. Proceeding from the standpoint that only biologically degenerate individuals, such as those who are hereditarily tainted, sickly or feeble, are bound to fall victims to alcoholism, they welcome the latter as a benefactor to the race, inasmuch as it tends to eliminate those elements which are incapable of sustaining the struggle for existence.

That the premiss is wrong we have already seen. Daily experience teaches us that an endless number of capable and useful members of society fall victims to alcoholism, and we only have to look at the occupation statistics to see how great a part accident plays in this connection. If there are so many brewers and publicans (see above) among those who succumb to the effects of alcoholism, it can hardly be supposed that this is so because these trades attract swarms of persons that deserve to be annihilated. Besides, it is utterly wrong to assume that alcoholism, even in its severest forms, destroys the races attacked by it within a few generations. For as a rule alcoholics marry non-alcoholic wives who bring into the marriage healthy germ-plasma, and more or less sickly children spring from such marriages according to the mixed proportions of the paternal and maternal heritages. These children again propagate themselves further, they again mix with fresh blood and again impart through the germ-cells a drop of poison to their offspring. Some of the branches decay and die, others thrive and sprout, the offspring of healthy ancestors mingle with them, and thus widely-spread generations arise which though they are not so deteriorated as the first alcoholic family are, nevertheless, not so pure and perfect as a race without any alcoholic ancestors at all. If at the end the number of alcoholists among the ancestors of a living generation is so great that their descendants are in excess, the result is bound to be a degeneration of the race.

Combating of the injuries arising from alcoholism during married life.—Having now exhausted the material of facts relating to the connection between marriage and alcoholism we have yet to supply an answer to the question: How shall we regulate our medical conduct in the face of all these facts?

a. Prevention of marriage in existing alcoholism.—The first principle to lay down is: The doctor must endeavour to prevent every marriage with a male or female alcoholic.

The whole sum of misery which results from such marriages with a great degree of probability is sufficient to justify this stringent demand. That marriage is beneficial to some who have become alcoholic from purely external causes, is of little importance compared to the enormous risk which accrues to the other partner. No one can guarantee that the man who has had recourse to drink, because he was uncomfortable in his lonesome domesticity, will feel more comfortable when married, or that the young "rake" will turn out a steady husband and father. Who can say with certainty in any given case that the alcoholism has not already gone so far as to amount to a morbid craving for drink? He who has sunk from carelessness or other external motives into a moderate degree of alcoholism must show, before he marries, that drinking has not become to him an insuperable necessity. He must live for some time without alcohol and thus simultaneously detoxicate his body as much as possible, which would avert an after-effect of his former injurious habit upon his first descendants as far as practicable. Those who have become drinkers from a morbid inclination or who have already developed through drink permanent psychical or organic disorders are no fit subjects at all for matrimony. These are the principles by which we medical men have to be guided in estimating the marriageableness of drinkers. We need not be afraid that we shall thereby shoot beyond the mark. As it is, there will be plenty of cases where the advice of others in a contrary sense will prove victorious.

But we also have to advise how one partner can recognise beforehand the alcoholism of the other, which, it must be con-

fessed, is often very difficult. It is a good thing that the custom is becoming more and more general for candidates for marriage to insure their lives. Advanced alcoholism is not overlooked at the necessary medical examination and the consequent rejection gives a valuable indication. Very often, however, alcoholism is not objectively sufficiently obvious and in such cases the obtaining of the insurance policy may give rise to a feeling of false security. The same thing applies to a special examination by the family practitioner. The best remedy is that which is ethically of most value: that people should marry each other when they are intimately acquainted and not on account of an inclination of short duration or soon after an introduction by a matrimonial agent.

But is it not the business of the State, the interests of which as we have seen, suffer in various directions from the effects of alcoholic marriages, to make such marriages impossible? And are there not State-institutions for this purpose?

Placing under tutelage on account of inebriety.—Both these questions are to a certain extent answerable in the affirmative. Germany possesses a law which enables the prevention of alcoholic marriages or at any rate their restriction. Paragraph 6, Sub-section 3, of the German Civil Code (*Bürgerliches Gesetzbuch*) says: "A person unable on account of inebriety to manage his affairs, or exposing himself or his family to the danger of destitution, or endangering the safety of others, may be placed under tutelage."

As the person thus situated is in the same position as a minor, he cannot contract marriage without the consent of his guardian.

And yet, although this law has been now in force for years, placing under tutelage because of inebriety has so far occurred very rarely: in the whole of Germany, according to *Endemann*, 852 times in 1901, and 903 times in 1902.

At the same time, as this author adds for the sake of comparison, 783 persons died in Germany in 1899 from delirium tremens alone, while 21,361 persons were maintained in the same year in German asylums and hospitals on account of alcoholism. These figures are, however, far from giving the real

number of severe alcoholics—they could be amplified by returns from prisons and workhouses, and a quack who offered for a single payment of ten shillings a remedy against drunkenness made in one year £15,000.

There are several reasons why only so very few drinkers are placed under tutelage. In the first place there are as a rule no prosecutors.

The relatives are afraid of the inebriate or do not like to expose him in public, the public prosecutors are not in a position to initiate a prosecution, and the poor-law authorities and communities who have in the most important German States been entrusted with this right do not make sufficient use of it. Their point of view is that the placing under tutelage of a drinker does not *eo ipso* diminish the expenses which he causes to the poor-law authorities. But they forget that this proceeding, regarded in the case of unmarried drinkers as a marriage-obstacle, can reduce these expenses materially. For in such a case it is only single individuals who become, when sick or poor, a burden to the rate-payers and not whole families. Communications in this direction are particularly instructive, as for instance that made recently by *Putter*, the former manager of the Halle poor-law institution. Take an example: An able-bodied working-man became tired of work and gave way to drink, the whole of his family sank morally, three children were sent to a reformatory, and three others who were feeble-minded to a children's home. So far this marriage has cost the poor-law authority in 7 years £285. These are regular experiences, and by far the most serious cases from the point of view of the offspring are those where the alcoholism begins at an early period and frequently before marriage, which happens in hereditarily-tainted or mentally deteriorated drinkers. This is distinctly seen in the material of youthful criminals at the Moabit gaol.

Here we have at least a nucleus which by a judicious appreciation by the State and the communities is capable of developing into a means for preventing alcoholic marriages.

It were also desirable that public prosecutors should have the right to institute proceedings with a view to placing a drinker under tutelage. In this way cases of alcoholism would be in-

cluded under this category which do not otherwise come to the knowledge of the poor-law guardians, cases in which the inebriety has not yet produced a reduction in the earning capacity, but which manifest themselves by offences and crimes. It was surely exaggerated fear on the part of the legislators that the public prosecutors would employ this power as a weapon against political undesirables. The minutely prescribed legal preliminary conditions in tutelage cases constitute a sufficient safeguard against such a contingency.

Round the expression "inebriety" contained in this law, a veritable battle sprung up which has, unfortunately not without the fault of the medical profession, ended in a regrettable manner. Science includes to-day under the term "inebriety," only a condition in which the drinker has morally sunk to such a level that he is no longer capable to withstand the craving for alcoholic liquor, in other words a genuine mental disorder, similar to that of morphinism. *Planck* has, in his commentary to the German Civil Code, applied this point of view to § 6: "The expression seems to denote that a morbid condition is necessary, in consequence of which the person in question has under ordinary circumstances no longer the power to resist the desire for an excessive consumption of intoxicating drink." The same standpoint is taken up by the Reichsgericht in a decision of October 27, 1902.

It is, however, certain that the preamble of the *Bürgerliches Gesetzbuch* when submitted to the Reichstag knew nothing of such a scientific limitation of the term "inebriety," which is in its popular meaning by no means so circumscribed in its application. For it points out distinctly that the tutelage shall no longer be instituted as under the former law, only when the inebriety has led to mental disease. It therefore does not regard inebriety as such as a mental disease. Similarly the Reichsgericht has on another occasion (judgment of the 4th Civil Senate of June 5, 1902) emphasized the justice of regarding drunkenness as such as dishonourable and immoral conduct, and this is also stated distinctly in the preamble of the *Gesetzbuch*. But then a craving which rests upon mental disorder can never be "dishonourable" and "immoral."

And where does such an application of a purely scientific term to a law which intended something else, lead us? To the conclusion that the judge must refuse the institution of the tutelage on account of drunkenness, if the drinker proves that he can control himself, that it is not yet insuperable disease which makes him indulge freely in alcohol, but mere recklessness and a low character. *Endemann*, who has gone into this matter with a thorough acumen, gives actual examples of this kind. It amounts to this, that a man who in point of fact gets inconsiderately drunk every minute, who endangers seriously the public safety, who lets others work for his support, has only to show that he can be sober for eight days once in a while—and it becomes impossible to place him under tutelage, he may then go on drinking and doing mischief until he has gone so far that he is really unable to do without drink. One of us is acquainted with the case of a lady belonging to the better classes, who was for 10 years so much addicted to drink that she showed already albumen in the urine and was by one or two specialists on account of severe nervous troubles in the pupil and the tongue suspected of being paralytic. She neglected, being a rich widow, the education of her children. Matters becoming serious, and one of her relatives instituting an action to have her placed under tutelage, she placed herself under treatment in an institution where she managed to abstain from drink for several months which were given her by the court as a period of probation. The moment she was sure that the application against her had failed, she went with a younger son to a wine-restaurant to make up for lost time.

This view being the prevalent one on the point it would seem that a special inebriety-paragraph is quite unnecessary as in those cases where drunkenness has led to mental disorder, tutelage could be obtained on the grounds of mental weakness and in the cases where there is an advanced dissolution of the moral personality, on the ground of "insanity."

Of course, it would be very nice if legislation were to adapt itself always to the exactness of scientific nomenclature. But often enough the conceptions which science associates with certain expressions handed over from generation to generation,

alter in the course of a few years, whereas laws are supposed to remain in force at least for decades. We doctors have not always shown ourselves so jealous in guarding the purity of medical terms, and particularly not with reference just to this § 6 of the *Bürgerliches Gesetzbuch*. On the contrary, we have succeeded in having the expressions "feeble-mindedness" and "insanity" interpreted by the courts not according to their medical meaning but according to the legal one given them by the laws. We might do this just as well as regards inebriety and place it in this case on a par with "chronic alcoholism."

Abuses can be avoided, seeing that it is not possible to place under tutelage all drinkers or alcoholics respectively, and that it is necessary to prove the actual existence of all those preliminary conditions which we have already mentioned and which are very numerous. First of all, the individual in question must be incapable of managing his affairs, that is the totality of everything that concerns him. He may yet, for instance, be capable of exercising his employment, or of fulfilling his duties, the law permits him to do that—with the consent of his guardian—even after being placed under tutelage. But he must not be incapable of transacting certain definite actions only. Or else he must show by his conduct that a continuation of his drinking habits will sooner or later bring him to material destitution. Or finally, it must be proved that his general behaviour is so bad as to endanger the safety of others.

Endemann would like, so that misunderstandings such as those which have already arisen should be avoided in the future, to see the law altered as follows:

"A person may be placed under tutelage if in consequence of inebriety, he is unable to conduct sensibly the sum total of his affairs, or if, as a result of drunkenness, he exposes himself or his family to the dangers of destitution or if he endangers the safety of others."

The distinction of the inebriate, as one who can no longer give up drinking and is consequently unable to look after his affairs, is here perfectly correct. But it seems inexplicable why

in the other two clauses only the "drunkard" is mentioned. For *Endemann* himself chooses the expression "drunkenness" for the beginning stage only, in which the drinker is still responsible for his actions (for his drinking and the results arising therefrom). The expression is in itself very well chosen: he who is in the habit of drinking much, out of carelessness, love of pleasure or from other non-morbid causes involving guilty negligence or a bad disposition, is a drunkard (*trunkfällig*); he who cannot help it, but feels that he must drink, is an inebriate (*trunksüchtig*). But the risk of destitution and the endangering of others is common in both of them alike. It should therefore be stated in the above emendation: ". . . or if as a result of inebriety or drunkenness he exposes himself . . ."

When the *Bürgerliches Gesetzbuch* and the *Civilprozessordnung* (procedure under the civil law) will contain the extensions advocated here relating to placing inebriates under tutelage, it will be possible in cases of alcoholism that have advanced to a particularly serious degree, to put in the way of the alcoholic a stringent marriage-obstacle. It would then, of course, be the business of the respective courts of justice to see that this marriage-obstacle is carried into practice in a proper and settled manner.

Of other than German laws that of British Columbia goes furthest of all: "Every person who is proved to be addicted to drink, shall forfeit the right to manage real or personal property or to dispose of the same." In Norway the regulations regarding the placing of drinkers under tutelage lay too much one-sided stress upon acute intoxication as a constituent part of alcoholism, as they speak of a "tendency to drunkenness"; at all events they are more unequivocal than the German ones. In the town of Basle inebriates may be placed under tutelage if they constitute a public nuisance. Most countries, however, have as yet no law at all permitting the placing of inebriates under tutelage, and none goes materially further in the matter than we have suggested above.¹

¹Translator's note: The English law knows no such proceeding as

Radical prohibition of marriage.—In fact, it is not in our opinion, the business of the State to go much further. Were we, in some way or other, intent on prohibiting the marriage of every alcoholic, say, by a law to that effect, what measures would it be necessary to adopt for the purpose of finding each one out! A medical examination of all candidates for marriage might have the result that so and so many would be wrongly declared as alcoholics, while the greater number of the real alcoholics would never be detected. Because the physical signs of medium degrees of chronic alcoholism are not yet as a rule clearly marked at the average marriageable age, and the psychical changes are not recognisable by a single medical examination even in advanced degrees of the intoxication, especially if the examining physician is not an expert in mental diseases. There would consequently remain nothing else but a system of espionage, which would do far more harm than good. Judicial errors innumerable, a demoralising class-justice, mistrust on the part of everybody against everybody else, would be the regular outcome of this. Particularly must we object against and discourage every attempt to make alcoholism a notifiable disease. For the more such notification-duties are thrown upon the shoulders of the medical profession, and especially with regard to diseases which are considered odious, the fewer people affected with such diseases will present themselves before a doctor. The latter would lose his status as the confidential adviser of the public, and instead of being useful to

“placing under tutelage on account of inebriety.” The nearest approach to it is the formal inquiry, “*de lunatico inquirendo*” by a “Master in Lunacy.” If the patient is found incapable of managing his affairs (*non compos mentis*) the Lord Chancellor appoints a “committee of the person” to see to his comfort and proper treatment and a “committee of the estate” to look after his property. In Scotland the Court of Session appoints a “*Curator boni*” who takes charge temporarily or permanently of the property of the insane person. The Scotch law also knows a proceeding called “interdiction” which is a restraint applied to prodigals and others who from weakness, facility or profusion are liable to imposition.—In America the law is mostly derived from the English sources, but the procedure is regulated by statute in the different States.

the State as a detective, he would be deprived of the possibility, which he possesses at present, of preventing evil by timely advice. There are limits even to the power of the State, and much as we sympathise with the struggle against the injurious effects of alcohol, we cannot look upon the whole world from the one-sided point of view of alcoholism.

a. Prevention of alcoholism during marriage.

—The prevention of alcoholism during married life must be attempted according to the same principle as that of alcoholism generally. We need not therefore waste many words, nor can we go here into the controversy whether abstinence or moderation should form the guiding factor. Our personal standpoint is, that total abstinence from alcohol can certainly never do any harm, but that an occasional moderate use of it is capable of causing permanent injury to an insignificant minority only. Besides, we know from an experience which is thousands of years old, that humanity has in addition to real food always needed and employed nervine stimulants, and it is very much a question, if it were possible to abolish alcohol, whether other and more dangerous excitants would not come into general use by those who are easily given to excess.

The enemy whom we fight is habitual, steady drinking. The daily consumption of intoxicating liquor, even in comparatively small quantities, is always serious. For the damaging effect upon the working ability of a man, which commences after the smallest dose of alcohol, may last from 12 to 24 hours, so that the next slight intoxication can sometimes set in before the preceding one has ceased. This is the more to be apprehended, as these toxic actions of a lower degree cannot subjectively be felt at all by the individual in question. The self-deception which leads in such cases to the imagination that good has been derived and not an injury, is not a guilty but a natural and unavoidable one.

And there really is in a well-regulated household nothing more superfluous than the habitual consumption of beer or wine at meal-times. Well-cooked and nourishing food does not thereby become more appetising or palatable—quite the reverse. On the other hand it must be conceded that a judicious and suit-

able preparation of the food is one of the most necessary measures in the fight against alcoholism.¹

We consider it advisable that those who take every day regularly small quantities of alcohol, should now and then voluntarily impose upon themselves an abstention-period of some weeks' duration, so that they may find out whether and to what extent alcohol has gained power over their tonicity.

What must be particularly warned against, is the performance of sexual intercourse while in a drunken or semi-drunken condition, as the constitution of the eventual offspring suffers thereby materially. For the same reason pregnant women must be exceedingly cautious as regards the consumption of alcohol. During the lactation period the excessive use of alcohol must, of course, be prohibited, not excepting "roborating" strong wines and beers. A very careful administration of harmless spirituous liquors, such as beer and eggs, beer-soup, etc., is in most cases free from untoward consequences.

With the exception of acute diseases and unless specially indicated, it is best for children under 14 years of age that they should never be given any alcohol. If they are on special family occasions permitted to sip from a wine or beer-glass, they should be distinctly told that it is a very rare and great exception. They will understand this most easily where they see their elders also indulging in the luxury on rare occasions only.

b. Cure of alcoholism.—Where a married individual has fallen a victim to alcoholism, it is the doctor's duty more than with any other alcoholic to urge energetic measures before the intoxication has assumed higher degrees. The only remedy which is of any good in this disease as such, is notoriously the complete and permanent abstention from alcoholic drink of any kind. The change to this abstention is however to an alcoholic

¹Translator's note: Looked at from this point of view there is every justification for the unremitting efforts of the education authorities to impart to girls a thorough knowledge of cookery. Unfortunately, however, we see that the consumption of alcohol has gone up in France in spite of the notorious culinary abilities of the French housewife.

exceedingly difficult of accomplishment, the more so as his psychical energy, his firmness of character, has already undergone a deterioration. In most cases it is necessary for such an alcoholic who desires to get rid of the habit, that he should find himself in the company of people who do without alcohol, and that at first he should be under constant control—in other words he needs a somewhat prolonged stay in a home for inebriates. The necessary separation from the married partner for a time to be reckoned at least by months, possesses in the case of families which dispose of the requisite means of support in the absence of the bread-winner, only one advantage, it prevents the procreation of further imperfect children from intoxicated germ-cells. We often see the waning married happiness of such a family flourish again after a separation of this sort—but so far it is unfortunately given to very few people to be so favourably circumstanced as to be able to undergo a cure at some institution, without having to trouble about the material position of their dependents.

Apart from those persons with small incomes following some employment on their own account who are not insured against sickness of any kind and who are hardly in a position to pay for their own keep at the home and for the support of their families during their absence, it is principally three classes of individuals who come here into consideration, viz.: those in the civil service, those entitled to superannuation, and those who are members of some sick-club or are otherwise insured against illness.

As regards the first, the circumstances are apparently favourable, as their salaries continue to be paid during sickness and there is, besides, the possibility of help from public funds for purposes of treatment considered medically necessary. But just in alcoholism they easily lose these advantages for various reasons.

The persons falling under the law of insurance against sickness receive, in so far as they belong to communal sick-clubs, and in agreement with § 6, Clause 32 of that law, if they are unable to follow their employment, from the third day after the beginning of the illness for every working-day a sick allow-

ance amounting to half the customary wage of ordinary day-labourers, and this continues in accordance with the modification of the above-mentioned law which came into force on January 1, 1904, for 26 weeks, this being in addition to free medical attendance. In the place of these payments may be substituted, according to § 7, free treatment and maintenance at an hospital. In addition to this last benefit, there is payable for or direct to the relatives of the patient, if there are any whom he has hitherto supported out of his earnings, a sum equal to half the amount fixed by § 6 as sick-money.

In local sick-clubs the benefits granted are sometimes greater still. The sick-allowance is calculated according to the average wage of the class of workmen represented in the club up to a maximum of 3 shillings daily, and it may be increased to $\frac{3}{4}$ of this average wage. An allowance may further be granted to convalescent patients from the time the sick-allowance ceases, for a period of one year. (§ 20 sq. of the above-mentioned law.) This applies also to industrial building and guild sick-clubs.

All these regulations apply no doubt to alcoholics and to inebriate-homes. For a chronic intoxication is under all circumstances an illness, and homes for inebriates are hospitals. The clubs are therefore entitled to suitably maintain alcoholics for 6 months and to grant to their families during the same time an allowance which is unfortunately in most cases totally inadequate. Local sick-clubs may even extend their support of convalescent alcoholics for a year longer, though they cannot do the same thing with regard to the families.

On the contrary, these benefits to the families are capable in virtue of §§ 6a, 26a, etc. of the above law, of undergoing material curtailment; if the disease has been occasioned by "drunkenness," the statutes permit a reduction in or refusal of the sick-allowance.

We have already dealt above with this term "drunkenness" (Trunkfälligkeit) as we interpret it.

Curiously enough *Endemann* explains drunkenness—and this contradiction with his statements as mentioned above is rather difficult to understand—not as a habit or as a series of

wilful acts, but as a "condition." He wishes to apply the expression in those cases "where in consequence of the intolerance against alcohol or of the chronic alcoholism (habitual drinkers) the typical signs of the normal or mental decay have made their appearance, no matter whether it is possible to ascertain a well-marked form of cerebral disease or not." But this cannot apply to § 6a etc. of the law relating to sickness-insurance. Because while this paragraph obviously embraces only cases of conscious guilt (fights, premeditated self-injuries), such a condition as the one described by *Endemann* may very well happen without conscious guilt. If, for instance, a man gradually becomes bodily and mentally infirm through the effect of alcohol, although he does not drink more than is usual among men of his class (brewers, waiters) or in the locality where he lives, and he is not warned by anyone that he ought to drink less, it cannot be said that that man is consciously guilty. On the other hand the definition of the term drunkenness which we gave above, namely a negligent habituation to excessive consumption of alcohol, agrees with the spirit of this law as well. But in order to exclude every doubt it would be better if the paragraph in question which speaks indeed also of "guilty participation in fights" etc. were to contain the expression "negligent drunkenness." Better still it would be if the whole clause were left out. For it hinders chiefly the cure of married drinkers or it robs their families of a part of the benefit which that cure would bring them.

Those married persons who fall under the law relating to superannuation-insurance are, if they are attacked by alcoholism, comparatively in a better position as regards their treatment.

According to § 18 of the law of July 13, 1899, the national insurance-office is entitled, in the case of diseases which give cause for apprehension that disablement will result, to institute the necessary treatment for the prevention of that disablement. If this takes the form of an abode in some hospital or institute for convalescents, an allowance must in every case be paid to the relatives. The latter amounts, if the insured person has hitherto been under State-insurance against sickness, to half the sum of the former sick-allowance, otherwise to a

quarter of the locally customary daily wage of ordinary day-labourers. In the same way the insurance-office may in the case of an existing disablement in the sense of the superannuation law, permit treatment to be undertaken if it promises to bring good results. The same allowance is then due to the relatives, or the annuity becomes payable to them instead. Alcoholism does not occupy here any special position (there is only one single regulation which we shall mention later on, and which might be regarded as an exception to this principle). Thus the superannuation-law appears in this respect the wisest of all the social laws. For all the penalties in the shape of money or money's worth which affect the alcoholic, injure an innocent family and the community which is always interested in the cure of drunkards.

It is not always—in fact it is only in a minority of the cases—that the drinker possesses the insight to place himself voluntarily under institutional treatment. The possibility to force him to do so, is for the present very limited.

Generally speaking it would appear at the first glance that the placing under tutelage can be made use of in this direction, seeing that a guardian can fix the residence of his ward. But in the first place it is legally questionable whether this relates also to the stay at an institution and secondly no assistance can be expected from the police in having a drinker removed to a home or retained there. Among German States it is only in Saxony that a general order to that effect has so far been issued to the police authorities. The threat of proceedings to have him placed under tutelage is perhaps more likely to induce a drunkard to permit himself to be taken to a home.

Social laws regard, moreover, a compulsory detention at some establishment in various ways. According to the law on insurance against sickness, the sick insured may be handed over to an hospital, independently of his consent, even though he be married, if he transgresses repeatedly against the regulations issued in virtue of the above-mentioned § 6a, a contingency which is observed oftenest in drinkers, or if his condition or conduct necessitates a continued observation, a circumstance which always applies to alcoholism. The superannuation in-

surance-law, however, does not permit such a compulsory treatment of every married insured individual without exception.

On the whole, the possibilities of compulsory removal of a drunkard to a sanatorium do not correspond with the necessities of the case. Alienists and lawyers are therefore unanimous in demanding a law dealing with inebriates, such, for instance, as has been in force in England for years. Two things ought to be made possible: first that definite sanatoria, erected eventually by the State, should have a right to detain—compulsorily if necessary—those drinkers who have of their own free will sought admission into them during the whole of the fixed and lengthy period for which they undertook to remain at the establishment when they were first admitted; and secondly, that drinkers, even though not under tutelage, should under certain circumstances be removed compulsorily to such establishments and detained there until they are cured.

c. *Prevention of the perpetuation of alcoholics continuing their married life.* — Permanent alcoholism of a considerable degree in a married person demands in every case the prevention of the perpetuation of the decayed race.

Rüdin, at last year's International Congress against Alcoholism, suggested, while advocating the prohibition of marriage of alcoholics in general, that individual drinkers might be permitted to marry on the condition that they consented to the ligature of their spermatic ducts. He recommended further, preventive sexual intercourse and artificial abortion under proper medical precautions.

Bold and far-reaching as these proposals are, they deserve neither the indignation nor the cheap sneers which they have encountered in various quarters. The danger of alcoholic marriages as regards the future of the nations is a very serious one, and every proposal with a view to abating it, requires careful consideration. But we have already stated that as far as legal enactments are concerned, more harm than good might easily arise in other directions. To prevent by law alcoholics from marrying, as a matter of principle, seems to us to be impossible, and among the severe cases of alcoholism, again, in

which marriage might, by extending the existing laws, be prohibited, exceptions in the sense of *Rüdin*, will only be found with great difficulty. To make a bodily mutilation the preliminary condition of a civil right—such a thing could not be constitutionally carried into practice by any State governed by a parliament, and limited attention as we need otherwise pay to the argument “that a certain measure is opposed to the feelings of the people,” here it would apply in the fullest sense.

To the recommendation of preventive sexual intercourse in alcoholic marriages we may well give our support, provided it does not involve injury to health. An interruption of the pregnancy in severe alcoholism of the procreator, is at the present time altogether out of the question. An interference with natural processes with the object of bringing about a breed-selection in the human species, still meets as a rule the fiercest opposition. We still consider generally the sacrifice of an unborn human life justified only, if we can save thereby another human life. And yet, if we remember that we are not on principle so averse to the killing of people for the sake of the community—to mention capital punishment and war as examples—we must acknowledge that a generation will probably arise some day which will approach without fear of revolutionising its ideas of morality, the question of the killing of the embryo for the benefit of the race and of the nation.

The second step for the prevention of the evils resulting from the alcoholism of a married individual, is the separation from board and bed (*mensa et toro*). Where it cannot be arranged by a mutual friendly understanding, it may, perhaps under certain circumstances, be accomplished by placing the person concerned under tutelage. In such a case the guardian has a right to fix the place of residence of the individual over whom he has charge, and he may, if he considers it necessary, choose one away from the wife. But it is not, of course, in his power to prevent the couple from having intercourse with each other, if the wife claims the right which she possesses.

d. Dissolution of the marriage.—Finally, the conjugal partnership may be dissolved legally under the same conditions as it is done in divorce.

But before going into the subject fully we must mention two other forms by which the nuptial tie may be undone. They are contestation of the marriage, and the declaration of its nullity. The following paragraphs of the *Gesetzbuch* apply in this respect:

"§ 1331. A marriage may be contested by the married partner who was at the time the marriage was contracted, or in the case of § 1325 (see below) at the time it was confirmed, not fully at liberty to enter into any contract, if the contraction or confirmation of the marriage has taken place without the consent of the legal representative."

"§ 1333. 4. Marriage may be contested by the married partner who was at the contraction of the marriage mistaken in the person of the other married partner or as to such personal qualities in the other married partner as would, had he possessed a knowledge of the real state of things and a proper appreciation of the essence of marriage, have deterred him from contracting that marriage."

"§ 1334. A marriage may be contested by the married partner who was induced into that marriage by wilful deception on such points as would, had he possessed a knowledge of the real state of things and a proper appreciation of the essence of marriage, have deterred him from contracting that marriage. If the deception has not been practised by the other married partner, the marriage is contestable only if that other married partner knew of the deception before the contraction of the marriage."

A drinker who is under tutelage on account of inebriety, may therefore contest his own marriage, if the latter was entered into without the consent of his guardian. The result of this contestation is the declaration of the nullity of the marriage.

There is no doubt that a man who has married an alcoholic woman, or a woman who has married an alcoholic man, without knowing him to be such, is equally entitled to contest the marriage according to § 1333. For alcoholism in its widest sense, even where it has not yet led to advanced physical and moral decay, is a personal quality in a married partner, the knowledge of which combined with a proper appreciation of the essence

of marriage would deter the other partner from contracting the marriage.—§ 1334 would be applicable, where the alcoholism no longer exists, that is where it is not a "personal quality," but where the fact of a former alcoholic disease has been wilfully concealed. For experience has shown the risk of relapse to be so great that a sensible person would thereby be deterred from marrying such a man or woman.

As a matter of fact such marriages are seldom contested, as in the first place the petition must be presented within 6 months, and secondly the drinkers are mostly men, and women do not easily have recourse to a proceeding which declares the married life that they have lived for some time, as null and void, and which stamps them, so to speak, to a certain extent as concubines.

An alcoholic marriage would be void from the very beginning, only if it were contracted during a permanent mental derangement which excludes the free exercise of the will-power, or during a condition of unconsciousness (unconscious intoxication) or temporary insanity.

Alcoholism does not constitute in Germany a direct ground for divorce. Besides California and Utah, this has recently been introduced into the law of England. Who gets senselessly drunk is subject to punishment; after the third offence he is placed upon the public drunkards' list, and his marriage may then be dissolved at once in favour of the other married partner.¹

¹Translator's note: The author has, perhaps, misunderstood the term "judicial separation" which may be granted to the wife or husband of a "black-listed." This is not, however, a dissolution of the marriage. The respective section of the Licensing "Act," 1902, says: "Where the husband of a married woman is a habitual drunkard as defined by section 3 of the Habitual Drunkards' 'Act,' 1879, the married woman shall be entitled to apply for an order under the Summary Jurisdiction (Married Women) 'Act,' 1895, and that 'Act' shall apply accordingly." This is how the Act of 1879 defines a habitual drunkard: "Habitual drunkard means a person who not being amenable to any jurisdiction in lunacy, is notwithstanding by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or herself or to others, or incapable of managing himself or herself and his or her affairs." The order referred to above, for which the wife of a habitual drunkard may apply, contains among several provisions dealing

According to German law, a married partner may sue for divorce if the other partner has by a serious violation of the duties created by the married state, or by dishonourable or immoral conduct occasioned such a shock to the conjugal relationship that it is unreasonable to expect that partner to continue the same. As a severe violation of the marital duties is regarded also gross cruelty. (*Bürg. Gesetzb.* § 1568.)

A married partner may further sue for divorce if the other partner has become insane, if the insanity has lasted at least 3 years during the married life and has reached such a degree that the mental companionship between the married partners has become extinct, and there is no prospect of this companionship being restored. (§ 1568.)

The connection between these grounds of divorce and alcoholism is of a various nature. First of all, actions committed under the influence of alcohol, represent to a large extent severe violations of the obligations springing from the married state. Special mention is made in the statute of the gross cruelty often experienced by drunkards' wives.

Further, the Reichsgericht recognises "inebriety" as immoral conduct by which the conjugal relationship may suffer severe perturbations. Inebriety is used here in its wider, not strictly medical meaning, and as synonymous with drunkenness. But *Endemann* points out quite correctly: that one who is already at the time when the petition is presented a real inebriate, may have brought about his present inebriety through a former guilty drunkenness, in other words through immoral conduct. Finally, chronic insanity may in a drinker be so severe, so persistent and take such a hopeless course that § 1569 may become applicable in addition.

If we wish to examine into the adequateness and suitability of these laws, we must in the first place have a clear conception

with the custody of the children, alimony, etc., a provision "that the applicant be no longer bound to cohabit with her husband, which provision while in force shall have the effect in all respects of a decree of judicial separation on the ground of cruelty." An interesting feature of the 1902 "Act" is that this right to apply for a summary judicial separation is also given to the husband of a wife who is a habitual drunkard.

of the general point of view to be adopted with reference to the dissolution of the marriages of alcoholics.

One definite section among medical men emphasises, above all, the welfare of the alcoholic patients. Their object is to look upon the drunkard already as a man who obeys an internal impulse, and to do all in their power that these unfortunates be not robbed of their last support, namely their married life. In the place of the dissolution of the marriage, there should be the cure of the drinker in some suitable institution.

Although such therapeutic endeavours must appeal to every medical man, it is our opinion that, even if applied at an early period, they are capable of rendering the dissolution of the marriage superfluous in a fractional number of the cases only. There are other interests as well to be considered in connection with the matter, besides those of the alcoholic himself: those of the wife, of the children, of the nation. Where these interests are likely to suffer injury through a continuation of the marriage, those of the alcoholic who is, as it is, a diseased and degenerated individual, must recede into the background. Genuine humanity cannot be practised without such apparent hardships.

Let us look now at the different forms of alcoholism as regards their effect upon marriage and the influence of treatment upon them. There are first the mentally degenerate, in whose case drink means a still deeper destruction of a morally joint-life inharmonious from the very start. Even if they stop drinking in consequence of treatment, they never become perfect human beings, and the danger of a relapse is particularly to be dreaded, or else, if they remain abstainers, they begin, from an inner desire for perversities of some kind, another folly instead. As married men, as fathers they only cause mischief. In contrast to them we see the army of uncouth individuals who drink, because it affords them pleasure, without feeling an internal impulse, without having a pathological inclination. These men we can probably compel to live without alcohol for a long time in an institution, but their character we cannot change, and when they come out they begin the old game again. A third class is formed by those who were formerly

in perfect health, but who have been crushed permanently by the overpowering influence of alcohol, individuals who when they are discharged from the sanatorium, are, indeed, cured of the drink-habit, but otherwise broken in body and spirit. Does institutional treatment render any of these people again fit for married life? True, some cases promise in this respect as well, a better success, but this success is never certain. The number of those who relapse is great, and before treatment at an institution can be commenced again, the wives are once more ill-treated, the families again brought to destitution, and fresh children are brought into the world endowed with a sad blood-inheritance.

Let those who desire to do their best for the poor alcoholics, do so, by all means, but they must adopt other measures, not the continuation of marriages which have lost every internal *raison d'être*.

It is not the fear that too many alcoholic marriages might be dissolved in virtue of the present law, which gives cause for criticism, but rather the difficulty to make this law practically sufficient.

The object of the law is obviously to permit the dissolution of marriages in which the married partners have become, morally and mentally, deeply estranged from one another, and particularly in which one of the partners severely imperils the most important interests of the other. In the case of alcoholics, this object is attained when by their moral guilt things have gone thus far.—This is clearly seen by the expressions borrowed from the vocabulary of morality, such as "violation of duties," "dishonourable," "immoral." The object is further attained if there exists an especially far-reaching and long-lasting decay of the psychical life.

But then there are also cases—and they really are not so very rare—where none of these conditions apply and where the moral union is, nevertheless, totally destroyed. This happens—as we have already indicated—where the people have become alcoholics or inebriates without committing in their opinion any excesses, without even at first creating the impression that they ever get drunk, where they have acquired the habit instinctively

and unknown to them, only because they drank no less than is customary among the circles they belong to. This happens further in the case of periodical drinkers who, without having been previously subject to attacks of drunkenness, develop occasionally but not permanently a state of inebriety in consequence of an insurmountable inner craving.

In these two cases not even the paragraph relating to insanity can as a rule be made use of. Because the periodical drinker is not permanently insane, and the other alcoholic psychical derangements have that in common that their incurability can be assumed only very exceptionally. They generally disappear to a considerable extent through complete abstention from alcohol even if signs of imbecility have already shown themselves.

No doubt, these persons are not morally guilty, but divorce is not a punishment, and to the wife who has to endure the consequences of this unguilty alcoholism, it makes very little difference whether her married happiness has been destroyed through or without the fault of her husband. As matters stand at the present day, many such innocent drinkers suffer a far greater injustice not only by being divorced, but also by being wrongly regarded as immoral and wicked creatures.

It is, therefore, desirable that a general law should be introduced, somewhat on the following terms: "A married partner may sue for divorce if by the drunkenness or inebriety of the other partner, such a severe perturbation has been caused in the conjugal relationship that such married partner cannot reasonably be expected to continue the same."

2. *Morphinism.*

General remarks.—In discussing chronic alcoholic intoxication we had to be careful in avoiding the mixing-up of this term with that of inebriety, as otherwise wrong conclusions would have been inevitable. In regard to chronic morphine intoxication, or *morphinism*, we can afford to be less strict, for it acquires an importance in civil life only when it has led to a craving for morphia. For morphia is not an article of consump-

tion in general use which is at the disposal of everybody under the mask of harmlessness or even pressed upon one by popular custom, but a substance known generally as a poison or as a medicine which must be taken with great caution. The person stricken with severe disease to whom large doses of this drug are constantly being administered is, perhaps not very rarely, in the scientific sense a morphinist, but the intoxication has no influence whatever upon his entire mode of life, and it would therefore be, as regards morphia, sheer pedantry if we were to distinguish between morphinism and morphinomania.

A morphinist in the sense of the following observations, is therefore a person who has, through the use of morphia, reached a condition in which under ordinary circumstances he is unable to resist the desire of having further quantities of the substance introduced into his organism. Such a person is in a state of compulsion which, looked at medically, is a mental derangement.

The immediate consequence of the administration of morphia is a pleasurable sensation. Physical pain or other symptoms of irritation (coughing, vomiting, strangury) disappear, and sleep which was through these causes impossible, makes its appearance. Physical discomfort is also removed; the person unaccustomed to the poison, experiences an agreeable relaxation, a beneficial feeling, as if all earthly troubles had vanished, as if nothing else were left to do but just to live on in sweet contentment. Those who are already a little hardened against the drug look upon it rather as a stimulant; it no longer acts so powerfully in paralysing the psychical functions, but now removes only the inhibitions; one becomes under its influence fresher, more lively, more fit for work. But, of course, the intoxication is in every case succeeded by the reaction, by a most disagreeable sense of fatigue, a physical and mental discomfort which arouses only more imperatively the desire for further doses of the poison. And the longer the use of morphia is continued, the larger become the doses by which it is possible to obtain the desired result, the shorter the duration of the effect. In the severest cases the unhappy sufferers make themselves as many as 30 to 40 injections daily—this being the principal

form in which morphinists satisfy their craving—and thus they introduce into their bodies as much as 30 to 40 grains or more of the poison during the 24 hours.

Influence of marriage on the commencement of morphinism.—Among the various causes of morphinism marriage plays only a comparatively modest part. There is little in married life which is capable of giving rise to a craving for this narcotic.

Who are the people that inject into themselves morphia? They are individuals who have originally suffered from some physical complaint and wanted to kill the pain arising from it, or persons who have by some accident got hold of the poison of which they wished at first to make use only for the purpose of overcoming easily occasional attacks of ill-humour or other inner inhibitions. Sometimes even it is mere curiosity to try the mysterious power of the magic substance which results in the habit becoming established and in the inability to get rid of it. A special rôle is played among all these groups by the degenerates, by those who are, to start with, disharmonious in their feelings and their ambitions.

The principal contingent is supplied by doctors and chemists, because to them the poison is easily accessible, by officers because they are particularly often confronted by the necessity to suddenly bring into full action their entire mental equipment—this frequently happens to medical men too!—and by ladies of the better classes who often persuade their doctors to have recourse to the morphia syringe for the purpose of relieving them of the more or less severe headaches to which their sex is subject, a proceeding followed by the direst results.

There is nothing in all this which bears on the married state. At the utmost we might, perhaps, include among the occasions which are responsible for the first application of the syringe in women, the troubles of pregnancy, those of the confinement and those of a, perhaps not normal, lying-in period. But it is not generally the custom to treat the first-mentioned disorders and pains by the administration of morphia, nor is the remedy often applied in the diseases connected with the puerperium.

There is, however, one case where marriage is the real cause of morphinism, and it is just this case which is of the greatest importance: the morphinist is namely by far more inclined to transmit his habit to those around him than is the alcoholic, and the number of cases in which this is successfully done is decidedly greater in proportion than in drinkers. Women especially are easily induced to give way to morphinism. The explanation of this psychological puzzle lies, perhaps, in the curiosity of woman which is excited by the peculiar and mystical qualities of morphia-intoxication, quite differently than by the well-known action of alcoholic liquor. Then the fact that morphinism is regarded by third parties as something æsthetically not so repulsive as drunkenness, may, perhaps, also account for the ease with which women succumb to its allurements.

This, at any rate, is certain—that morphinism "*en deux*" is very much prevalent, and not infrequently other members of the household, servants and children, are also drawn into it.

Influence of marriage on existing morphinism.—On the other hand marriage is rarely capable of bringing about an improvement of the condition, where morphinism does exist. The strongest wish to give up the pernicious habit for the sake of those one loves best, the most serious reproaches and most earnest entreaties of the other married partner are powerless against the inner compulsion. On the contrary, every little domestic trouble, every bit of discomfort associated with maternity in the wife, every cumulation of duties and cares occasioned by the married state, offers an opportunity to aggravate an existing morphine-habit or to relapse into one which has been overcome. *Levinstein* gives in this respect a very instructive example: A young lady received on account of renal colic, injections of morphia which were discontinued upon the disappearance of the illness. Years passed, and the war of 1870 called some of her nearest relatives to the field of battle, when, to deaden her fears and anxieties, she resumed the injections. She was never cured. Such experiences are, however, counteracted by the fact that the influence of husband or wife and the responsibilities involved in marriage are more likely to induce a married person to subject himself or herself to the

proper institutional treatment than is the case with those unmarried. In some of the milder cases a cure can even be achieved at home by the constant control of the other married partner.

Influence of morphinism on married life.—

The influence which morphinism exercises on married life is even more disastrous than that of alcoholism, seeing that the effect is produced by a particularly potent poison which has to be taken in doses that are, as a rule, increased much more rapidly.

Sexual connection.—The sexual connection ceases as a rule, if not soon, at all events after some time, although there are not exceptions wanting. This phenomenon is not due entirely to psychical reasons only. It is true that along with the total mental activity the sexual desire also becomes blunted, but several physical factors contribute their share: the *nervi erigentes* in man become paralysed, and the seminal secretion as well as the activity of the prostate are arrested. There is consequently an impotence in the fullest sense of the word which lasts, however, as a rule only so long as the morphinism itself endures. It is not incurable.

According to *Erlenmeyer* impotence begins only after large doses (about 1 gramme of morphia daily), and if the habit has been long established, after somewhat smaller ones. Not unimportant to this aspect of married life, is the fact that smaller quantities of morphia have on the other hand often the effect to stimulate the sexual irritability and that the withdrawal of the morphia may be succeeded by a regular "erotomania," a morbidly increased sexual desire.

Moral intercourse.—The moral alienation between the married partners takes place like in alcoholism, but with remarkable differences. The single intoxication-stages assume a less disagreeable form: there is not about the morphia-intoxication, as we have already said, that repulsive element which characterises the drunken bout. The latter makes coarse, quarrelsome, indiscriminating, excited—the former lulls its victim into fantastic dreams or rouses him mentally to genuine lofty accomplishments, but it leaves him at all events in physical rest and psychical peace. All those painful and wild scenes which

are so common in alcoholic marriages are in morphinistic marriages as a rule absent, at least at the beginning. But though this sort of married life is not a visible source of outward trouble, it lacks its object, and the close observer can see the deep lacerations under the smooth surface.

Soon the morphinist is capable of doing mental work only so long as he is under the influence of the poison, afterwards not even then. His memory fails him more and more. If for no other reason, the sphere of his interests is constantly growing narrower, and in the course of time it becomes so limited that all his attention and thoughts are concentrated round one single object, namely morphine. Married partner and children become a matter of complete indifference. The disposition fluctuates between reckless optimism and painful unrest; fatigue and indolence to such a degree that the patient falls asleep in the middle of the day, occur now and then. The morphinist becomes unbearably capricious, the toy of every instinct. Adultery happens, especially during the stage in which the sexual irritability is increased, exactly like in alcoholism.

No means are bad enough if the hypodermic can thereby be obtained. He becomes a cheat, a thief and a burglar. He is the most consummate liar that has ever been seen.

The morphinist but rarely becomes insane in the narrower sense of the word, at least not unless his craving arises on the basis of an already previously existing deterioration of his psychical life. For this we must point out once more that a large number among the morphinists are degenerates, individuals who have always lacked the internal sense of proportion, and who have for this very reason easily fallen a prey to the morphia habit, or people who were already psychically debilitated through other causes, such as acquired neurasthenia and especially alcoholism. That such persons may eventually be attacked by insanity or imbecility, if a fresh injury affects their mental health, goes without saying. *Erlenmeyer* emphasises as characteristic of the mental disorder of morphinomaniacs the peculiar mistrust which may grow so as to become a regular hallucination, and the termination is incurable idiocy.

There are also psychical derangements to be taken into con-

sideration which appear in consequence of the withdrawal of the drug, but which take as a rule a favourable course.

Cocaine-insanity.—Most dreadful is, however, the calamity which befalls in a psychical sense the unfortunate individual who has by some mischance or other, laid his hand upon cocaine as a substitute for morphia. This drug acts upon the psychical condition almost like a destructive explosive. The intoxication from cocaine resembles that caused by alcohol: the individual in question becomes talkative, boisterous and jolly. As soon as the intoxication has gone, there appears an anxious unrestfulness which impels one to repeat the injection. The continual increase in the single dose, if the subjective beneficial effect is to be obtained, becomes necessary much sooner than with morphia, and proportionately more rapid is also the decay of the psychical personality. Cocaine-insanity breaks out uncommonly often, sometimes after a few weeks from the establishment of the habit, and it is characterised by vivid illusions mostly of a distressful nature and by a fanciful interpretation of unpleasant personal sensations. The cocainist runs about with the revolver in his pocket, and not infrequently he makes real use of it to protect himself against imaginary foes.

What makes the cocaine-psychoses especially important from our point of view, is the close connection between the hallucinations and married life. These illusions are often of a sexually irritative kind and they may lead to perfectly senseless jealousy. Frequently the cocainist does not, like the alcoholic, accuse his wife of one illicit relationship or of occasional conjugal indiscretions only, but of numerous ones. He broods over the whole of her past life and acquires not a suspicion but the certainty that she has from her early youth given herself up to every one that came in her way, be his station in life ever so lowly, that, as *Kraepelin* quotes, she almost came into the world unchaste. It is clear that under such circumstances even the most formal married partnership must come to an end.

Though this cocaine-insanity is easily curable, as the withdrawal of the drug is usually not difficult to accomplish, and the hallucinations disappear after that as a rule, the character of

the person who has gone that far is in most cases so irredeemably shattered that a relapse is unavoidable.

Material considerations.—The mental collapse is generally accompanied by a severe decline in the worldly affairs of the married morphinist. It is in those vocations especially from which the number of morphinists is chiefly recruited, that people cannot be employed whose principal characteristic is their unreliability. The doctor, the chemist, the officer, the merchant, they are all so situated that their existence depends upon their clear-headedness and their readiness to deal with the problems of the moment. Of all the stages of the morphine-intoxication only one thing is of use to them, namely the stimulating effect of it, but not the weary brooding, or the condition of disquiet and mental restraint. It is, indeed, remarkable how many notorious morphinists among medical men manage to retain for years the eminent position which they acquired before they were seized by the terrible affliction; but in time more and more of the glittering surface is bound to crumble away, and nothing is left but utter ruin and misery.

Just as the morphinism of the husband causes a gradual diminution in the material welfare of the family so that of the wife brings disorder and chaos to the household. The morphinistic married woman neglects her duties and obligations, she loses her control and authority over those under her.

The body of the morphinist suffers along with the mental activity, so that he frequently lacks also the necessary physical fitness to look after his family. He becomes pale and thin, the tissues lose their elasticity, the digestion is impaired, the hair turns grey, in brief, he is in every respect an old man before his time. The carelessness with which he introduces dirty needles into his skin, without cleaning the latter first, constantly creates abscesses and cellular inflammations which render him totally unfit for work. Every accidental illness, especially if it is accompanied by fever, endangers the morphinist's life far more than that of individuals who are not under the influence of the poison.

A large number of morphinists put an end to their own existence. This is brought about by the discomfort of the reac-

tion coupled with the true regrets over a wasted life and the hopelessness that stares one in the face after repeated vain attempts to throw off the unhappy craving. Regard for wife and children is no longer a deterring factor, either because the sufferer is not susceptible to any altruistic feelings or because he thinks himself a burden to others whom, but for his terrible affliction, it would be his duty to support and care for.

Thus it happens that in morphinistic marriages it is either the bread-winner or the guiding housewife who soon disappears from the scene—leaving behind him or behind her a sad picture of misery or of disorder and cheerlessness. If things do not go quite so far, morphinism is, at all events, more likely than alcoholism to bring about a severe deterioration of the material welfare.

Morphia is in itself more expensive than alcohol, even if it is procured in the proper way by means of doctors' prescriptions. But advanced morphinists obtain it largely from unscrupulous dealers (*Erlenmeyer* numbers among his patients 90-95% who obtained the poison in this way) who take a shameful advantage of their customers' thralldom, charging them double and even more, than the price allowed by the law.¹

In addition to this, almost every morphinist tries institutional treatment again and again, either because he believes he can be cured, or for the purpose of coming back to a less advanced stage of the habit, if the daily doses have reached a dangerous extent. The person who, as it has happened, is treated within 3 years in 16 different establishments, must be something like a Cræsus to be able to support a wife and family at the same time.

The offspring.—And now as regards the fourth factor, the offspring of morphinists. We have already seen that virility becomes extinct after large doses of morphia. Similarly menstruation often ceases in women, and the expulsion of ova from the ovaries becomes scanty or ceases altogether. Under such circumstances the marriage is naturally sterile. We cannot, of

¹Translator's note: The prices which chemists are allowed to charge for drugs, etc., are in Germany fixed by the authorities.

course, from the absence of menstruation jump to the conclusion that ovulation is also absent, for pregnancy has in such cases been occasionally observed. These pregnancies may take a premature end, but they need not necessarily do so. Although it is well-known that morphinism is in close relationship to the frequency of miscarriages, there are, nevertheless, many cases where female morphinists are confined at the proper time; several times mature and well-developed children have been born, although the mothers were in the habit of injecting 15 to 20 grains, or more, of morphia daily. The peculiar phenomenon is here noticed that the morphia-habit of the mothers is of advantage to the fœtus; they can stand such quantities of the poison as are sufficient to kill outright the fœtuses of mothers not chronically given to morphia. The probable explanation is, in view of the more recent investigations on the blood, that antibodies which have formed in the maternal organism, are passed on to the blood of the child.

But against that, the children when they are born, are not infrequently endowed with pronounced signs of chronic morphinism. They show a well-marked appetite for morphia. There is an active muscular agitation, they go for days without sleep, they cry constantly, convulsive conditions appear now and then, and a most dangerous cardiac weakness may develop. Then one thing brings relief—and this is the crucial experiment—namely a hypodermic injection of morphia or a dose of laudanum, both remedies the extraordinary toxicity of which as regards other children, is very well known. It is, by the way, very easy as a rule to break children of the morphia habit.

If the morphinistic mother suckles her infant, the symptoms of abstinence are absent until the child is weaned. For morphia passes into the milk in sufficient quantities to make the baby morphinistic or to maintain it in that condition.

But, of course, it does not happen very often that morphinistic mothers suckle their infants, if only for psychical reasons. They have not the inner restfulness, the self-control which a suckling mother wants. Besides, it happens sometimes that the function of the breasts like that of other glands is paralyzed by the morphia-poison, and that even the glandular structure itself

becomes atrophied. As to what becomes afterwards of the children of morphinistic fathers and mothers, on this point the statements of the various observers are not at all uniform. Some (*Happel*) say: "Most of them die during the first week after their birth, and those who survive, remain delicate and nervous and often become morphinists or drinkers." Others, on the other hand, maintain that if the children have withstood well the first days of their lives, they thrive afterwards very satisfactorily. *Erlenmeyer*, certainly one of those who know most about this subject, is, however, on the side of the pessimistic judges.

It remains, at any rate, a debatable point whether, if such a degeneration of the offspring does occur, morphia represents the principal or an intermediate cause. No doubt the original constitutional anomaly of hysterical persons, neurasthenics, psychopathic degenerates with psychical discomfort, tabetics, people with severe neuralgias, and above all alcoholics, is an important co-operating factor. Even where one has recourse to the morphia-syringe out of mere curiosity, and cannot afterwards do without it, there is an absence of character which borders close on the pathological. Without morphia, either, one can hardly expect a particularly healthy progeny from people of this sort. Whether the poison acts more indirectly by shattering the whole organism, or directly upon the germ-cells, it is up to the present impossible to say. As in the case of alcohol, there is an absence of the possibility of sufficiently wide and careful observations.

From a practical standpoint as regards the question of children, that morphinism which arises on a prepared basis, is of the highest importance.

Prevention of the marriage of morphinists.—That much is certain, that neither a male nor a female morphinist is under any circumstances fit for matrimony. Hardly anyone will contradict this, and even to a less extent than as regards alcohol. The layman, too, will understand this much more readily, seeing that morphinism presents rather unusual features as compared with alcoholism which is on account of its common occurrence, looked upon as something more harmless.

It is in many cases possible to prevent the marriage of such

patients by a previous medical examination, for instance, by making life-insurance a preliminary condition of marriage. The flat oval scars and the hard infiltrated nodules which are seen on the body, especially on the arms of the person examined, as a result of injections, will arouse suspicion, and the contracted pupils, the dry or excessively perspiring skin, the general premature aged appearance will help to confirm it. But still, in the milder cases which are met with among candidates for marriage particularly—the advanced morphinist does not as a rule think of marriage—all these signs may be absent, and then there is nothing to call attention to a disease which the sufferer himself is hardly likely to mention.

That which may, in the case of alcohol, replace the absence of these diagnostic signs, namely a more exact knowledge of the candidate's mode of life, is in morphinism as a rule equally unavailable. It must be an extraordinary accident, indeed, if the friends of the morphinist have noticed as much as a certain alteration in his character, an occasional dissoluteness, an absence of the moral equilibrium.

As regards female candidates for marriage, it is only in an insignificant number of cases that a medical examination takes place previous to the event.

The harm which arises from morphinistic marriages is so enormous that the question is well justified: "Has not a doctor, when he learns that a person whom he knows to be a morphinist, is about to marry, the right and is it not his duty to impart this knowledge to the other party involved?" A moral duty most undoubtedly it is, in our opinion, since to allow a morphinist to marry, is in reality not much different than to acquiesce in the marriage of a lunatic. It is, however, very questionable whether the law would take the same view. The person who tells his or her doctor, or who enables him by some means or other to know, that he or she is in the habit of injecting morphia, confides to him under any circumstances a secret to the further revelation of which he or she would never consent, and as to whether the revelation of this secret can take place without committing a breach of § 300 of the German Criminal Code,¹ that is a point

¹Translator's note: See the article by *Dr. Placzek* for details on this point.

upon which commentators of the law and judges are not agreed. Those who think with *Gross* that the decision is best left in each case to the conscience of the doctor concerned, will at any rate feel justified in their own eyes if by considering themselves at liberty to make known a secret which has been entrusted to them, they are enabled to avert untold misery and misfortune.

Whether former morphinists who have undergone a successful cure of the morphia habit should be medically permitted to marry, depends in the first place upon the length of time which has passed since the cure, and also upon the general health of the person in question. The danger of a relapse is very great, and a probation of several years must therefore be insisted upon as a preliminary condition. The case communicated by *Erlenmeyer* in which the patient who had been a morphinist for 6 years, went through a two months' cure and married a month later, presents serious objections. It is true that the individual concerned did not have a relapse for two years, but he suffered in the first few months from severe gastric catarrhs, and it was probably the fact that he had married his nurse, which accounted for the absence of a relapse (thus far!). Where morphinism has arisen on a morbid psychical basis, the best advice, even after a "cure," is to leave marriage alone. In women especially, the danger that pregnancies and confinements may re-awaken the dormant craving for the drug, is very great. On the other hand it cannot be denied that the ungratified lonesome mode of life of unmarried people also constitutes a strong temptation to fall back upon morphia, and that many a morphinist might possibly be saved permanently by the beneficial influences of married life. But here, too, we take up the standpoint that it is not right to jeopardize the health and happiness of several people and especially those of a future generation, for the sake of an imperilled single individual.

Placing under tutelage on account of morphinism.—A defect in the German law is the impossibility to prevent morphinists from marrying, by placing them under tutelage. And yet the danger of morphinism is not one whit smaller than that of alcoholism. The morphinist whose sole scheming and thinking is directed towards one goal only,

namely how to gratify his craving for the poison, neglects everything else; he is "incapable of managing his affairs" without being necessarily regarded in the sense of the law as insane or feeble-minded. He exposes, as we have seen, himself or his family to the risk of privation and poverty in a marked manner; he endangers, if he occupies a responsible position, the safety of others; morphinistic doctors and chemists are apt to mistake one drug for another, the former often prescribe to their patients morphia in such a senseless way that they almost create regular "morphinistic communities." They are therefore an undoubted source of peril to their fellow-men. Nevertheless, they cannot be placed under guardianship. An addition to § 6, section 3, of the Civil Code is consequently an urgent desideratum, viz. in the following form: "Whoever is incapable of managing his affairs in consequence of inebriety or through a craving for morphia or similar drugs which tend to destroy the moral and physical health——etc."

One of us (Medizinalrat Dr. *Leppmann*), in spite of a large practice as expert in civil law proceedings, has only once succeeded in having a female morphinist placed under tutelage, and this case particularly shows how difficult it was to achieve this result, although the patient in question was already insane in the narrowest sense of the word and had already caused a great deal of mischief.

The case was that of a person, hereditarily tainted, who had from her childhood been very excitable and obstinate and who had, already as a girl, used injections of morphia. She married when 18 years of age, without being pressed into it, a man much older than herself, but began soon after the marriage to drink and to deceive her husband. About the same time, though it could not be ascertained exactly when, she commenced to inject large quantities of morphine. Her husband divorced her and she married a young man with whom she had previously had intimate relations. Shortly after this second marriage she began to have hallucinations, she became furiously excited and admitted at the establishment to which she was sent, that she had been for years addicted to morphia and cocaine. Two years followed during which vain attempts at a cure alternated with

a most miserable domestic life. The patient gave birth to a child which survived. A short time after that, her second husband also divorced her, after she had succeeded in making of him a morphinist, too. The child had to be taken away from her, as she used to put narcotics into its milk. After that she cohabited for a time with her divorced second husband.

For a number of years she had lived in an utterly neglected condition, until she was placed under guardianship. Physically she seemed to be in a fairly good state, but psychically she was somewhat frightened and hasty, though in perfect command of her tongue. She knew how to represent everything so skilfully, as though her illness was by no means so serious and as though she had been ill-treated by others. Months passed until it was possible to prove by repeated examinations of the patient and by the testimony of a large number of witnesses that Mrs. X. was suffering not only from occasional illusions and hallucinations, but also permanently from a morbid weakness of the will-power with impulsive variations from depressions, total bluntness of the moral emotions and a pathological indifference towards the outer world and her own person, in other words that she was insane within the meaning of the law.

To think that it could be so difficult to obtain legal control over a person whose biography sounds like a fictitious case describing the misery which morphinism may give rise to!

Separation of spouses in morphinism.—In order to cure morphinism, a temporary separation of the married partners is even more imperative than in alcoholism. The placing of the patient in a sanatorium is absolutely necessary, especially as the difficulties which exist in the case of alcoholism with regard to the maintenance of the family are not very pronounced, as a rule, among the classes to which most morphinists belong.

If a cure cannot be accomplished, a permanent dissolution of the marriage must be thought of. One might, perhaps, object that there is no need here to take into consideration a possible procreation of delicate and degenerate children, as morphinism renders its victims sterile. But a rule which is often broken by exceptions, as this one is, cannot constitute the guiding element

of our medical action. At the most, we might remember the point in the case of definite individuals in whom the male or female sexual activity has long since ceased.

As regards contesting the validity of a marriage on the ground of morphinism existing previous to the contraction of the marriage, the law offers sufficient possibilities.¹ On the other hand the dissolution of the marriage with a morphinist is rather more difficult. It is almost desirable from the point of view of the married partner who wishes for the dissolution that no medical man should be called as a witness. Then it might, perhaps, happen that the dull and indifferent attitude of the morphinist which offends against honour and established custom, would be regarded as a severe violation of the duties created by the married state, or as "dishonourable or immoral conduct" within the meaning of § 1568 of the *German Civil Code*. (See p. 1113.) But the medical expert would as a rule be bound to object that these defects of character are due to the action of the poison, and that the patient has succumbed to them against his own will entirely, in consequence of a morbid impulse. Even the plea, not infrequently employed against the alcoholic, that the habituation to the poison is in itself "immoral conduct" and a dereliction of duty in the sense of the law, cannot as a rule be admitted against the morphinist. For very often the beginning of the mania lies in a medically prescribed prolonged administration of morphia, and who dares to draw the line when the continuation of the use of the drug is a guilty indulgence in prohibited pleasures, and when it is, on the other hand, a morbid yielding to an inner compulsion?

That the mental alteration in consequence of the abuse of morphia assumes the character of a permanent disease in the

¹Translator's note: This applies, of course, to the German law, but I am inclined to think that the English Divorce Court would grant a decree of nullity under such circumstances, on the ground that there was physical incapacity for sexual intercourse at the time the marriage was contracted. The question is, however, whether sufficient evidence could be brought forward that the incapacity in question is of a permanent nature, as this constitutes one of the conditions demanded by the Divorce Laws. At all events there is no hard and fast rule in England such as there is in Germany, and each case would be dealt with on its merits.

meaning of the law, happens occasionally, as we have seen. In such cases the mental companionship is destroyed. If several attempts at cure no longer remove the mental defect, every hope that that mental companionship will ever be restored must be abandoned, and if the habit has lasted at least three years since the marriage was entered into, the conditions of § 1569 of the Civil Code are fulfilled in their entirety. But there must be a transition from the mere morphinistic neglect to permanent and severe disease. The dulness and disinclination, the indifference and bluntness of the ordinary morphinist which it is possible to cure by suitable treatment, are not sufficient to bring about a divorce. It is very rarely that he reaches a stage of unconquerable weakness of judgment and permanent hallucinations, or that a stay in an institution and abstention from morphia for several months can no longer restore the mental companionship. At the most this may be the case in morphine-cocainism.

At all events the dangers of morphinism even if it does not reach such a high degree of destruction, are so enormous to the married state, and the possibility of a dissolution of such marriages from other legal causes is, as we have seen, so limited that morphinism, like alcoholism, ought with certain reservations to be included among the legal grounds for divorce.¹

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¹Translator's note: The reader must remember that the divorce laws of Germany are far more elastic than those in force in this or any other English-speaking country—with the exception of some of the Western States of North America—and that the contributors to this work have in the first instance when writing on the subject of divorce, thought of their own country. Their arguments will, however, apply anywhere and everywhere, and the time may not be very distant when the question of altering the divorce-laws of England, so as to make them agree with the medical point of view, will become an actual and burning one.

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XXV

**Occupational Injuries in Relation to Mar-
riage**

OCCUPATIONAL INJURIES IN RELATION TO MARRIAGE

By A. and F. Leppmann (Berlin)

General remarks.—Necessary though it is to follow some occupation in order that we may remain healthy and able-bodied, it is, nevertheless, a fact that every employment carries with it a certain amount of danger to health. The manual labourer is obliged to assume positions or to carry burdens which in time become more or less unendurable. He must do his work sometimes out in the cold, at others when it is very hot, now in an excessively dry atmosphere and then in one which is full of humidity, or be, perhaps, exposed to all sorts of weather. From the raw material which he manufactures into various articles he receives injuries of all kinds, either because he falls a victim to the brute force of explosions or other similar accidents or because he is liable to be attacked insidiously by poisonous substances or by contaminations of the air in the form of dust. In addition, the work is often enough excessive either in its quality or in its prolonged extent of time.

Nor is the mental worker, on an average, less in peril. In his case, too, an excessive amount of exertion has frequently enough calamitous results, especially as it is much more difficult for him to define the exact limits of his work. Duties which cannot be subdivided into fixed instalments engage the attention during the so-called leisure hours as well, often the night-time is also encroached upon, or the prolonged mental work renders sleep difficult and steals the hours of rest. Some occupations, as for instance that of the doctor, chemist, nurse, in which physical work combines with mental activity, are from their very nature so constituted that they never permit with any certainty

the amount of rest which the organism requires. Often mental labour involves a continued confinement in close, hygienically perhaps unsuitable, rooms, an absence of exercise and of inurement, an unhealthy pondering over books and folios. Above all, it is as a rule accompanied by more serious psychical perturbations than physical labour.

Prevention of occupational injuries by marriage. — If all these dangers do not in every case cause disease, and if occupational diseases are not always succeeded by infirmity, we are indebted for this not only to the resistiveness of our organisms but also to our conditions of life, and it is here where marriage can doubtlessly exercise an extraordinarily beneficial effect.

In the first place a large number of women from among those who follow an employment, withdraw by marriage from it altogether in order to devote themselves to a vocation which is at all events considerably healthier than the majority of all the other female occupations. Girls whom we see as shop-assistants, embroiderers, seamstresses, ironers, mill-hands and in other kinds of situations, anæmic-looking and delicate and suffering from all sorts of nervous complaints, often become, by marrying, strong and healthy women. This is not due only to the circumstance that married life affords physically and mentally a more satisfactory existence than does spinsterhood, but also to the fact that a large number of the immediate injuries which we indicated briefly above, no longer come into action.

The man, it is true, continues even when married to be subject to the injurious influences of his occupation. But a happy married life and a well-regulated domestic routine enable him to protect himself to a much greater extent against those injurious influences. To most men marriage means an improved mode of life such as is urgently wanted in the struggle against occupational dangers.

The unmarried working-man finds as a rule when he comes home tired after his day's work, no attendance, no comfortable room, no properly prepared food, and sometimes not even a bed upon which he can stretch his weary limbs. Instead of counteracting by the beneficent influence of rest, good nutrition and—

last but not least—moral comfort, the preceding exertion, he is, on the contrary, obliged to add to the one damaging element another in the shape of the evils of the lodging-house and public-house life. Under such circumstances marriage is capable of acting as the best preventive against disease, and if disease happens to break out nevertheless, it offers the nursing which is most suitable in occupational diseases most of which take quite a chronic course.

The observation is also frequently made that a married working-man is more careful of his health than the unmarried one. He understands that every illness which would befall him might have for himself and his family consequences of a most serious nature, and he lives therefore more hygienically. He is more precautionary at his work so as to escape avoidable injuries. He utilises more his time of rest, and in a more sensible fashion. A most instructive example of the way in which married working-men are almost instinctively bent upon spending their leisure hours under healthy conditions, so as to counterbalance the injurious effect of their occupations, can be seen in Berlin, in the so-called "summer-house colonies." Wherever there is yet a large plot of land unoccupied by houses in the vicinity of the capital, it is sub-let in small plots which are turned into gardens with little wooden summer-houses, the tenants being mostly married working-men. During the summer the families stay there the whole day and the bread-winner himself spends his evenings and Sundays in clearing his lungs of the smoke and dust inhaled at the work-shop, while he has at the same time an opportunity in the cultivation of his little garden or in doing a little joinery at his fence or summer-house, of performing some work on his own account which gives him a chance of exercising his brain and of consulting his own tastes after having been at the mill nothing but a human machine engaged upon some monotonous and uninteresting task.¹

¹Translator's note: Would that someone could teach our Lancashire mill-hands, and others like them, to spend their holidays in this sensible way instead of going in crowds to some seaside place from where they, as often as not, return more exhausted than when they left their homes.

Of course, there is no reason why an unmarried man should not go and do likewise, but it is only marriage which brings as a rule along with it a sense of steadiness, and pleasure at the thought of a quiet and regular life which is the preliminary condition of every hygienic self-help.

The mental worker, too, finds in marriage an aid against the injuries of his occupation. He throws off the senseless habit of "working away," he recognises the necessity of giving some of his time and thoughts to other things besides his profession and his duties. And while he feels compelled to give himself a change and to devote a few hours to the wife and children, he observes that he feels more fit and fresh than when giving his thoughts no rest. Where marriage really fulfils its ideal object as a spiritual fellowship, the mental worker is sure to find in his wife at the same time a true comrade who will help him to bear the moral perturbations of his vocation and who can do a great deal towards the solution of the inner conflicts which so easily exhaust toilers of this kind.

The aggravation of occupational injuries through marriage.—Unfortunately this ideal picture of marriage as a help against occupational injuries is by no means always applicable. Quite apart from the accidental conflicts of married life which make a beneficial influence of the latter impossible, there is one circumstance which occurs only too often and which tends to aggravate all occupational injuries instead of acting against them, and that is if the income of the husband is insufficient to support the family as long as his activity is commensurate with the dictates of hygiene.

In such a case the man must either endeavour to obtain more profitable work which does not suit his ability, or else the family is not in a position to spend sufficient sums for nourishment, clothes, housing accommodation, fuel, etc., or the wife must go out to work and earn money. In each one of these alternatives the effect of the occupational injuries is bound to be greater.

If a delicately-built man is forced by poverty to carry stones up a building, he is sure to break down in health after a time. If the stone-cutter has not any proper food he becomes tuberculous, and the inspector who cannot afford to buy warm clothes

is certain to fall a prey to some disease due to cold. But the remedy, namely that the wife should assist in earning a livelihood is bad enough. Her sphere of duties becomes thereby doubled, her strength gets exhausted and thus the occupational injuries gain the upper hand. Pregnancy and the period after the puerperium especially, create conditions, under which the organism of the woman most easily succumbs to the dangers which employment brings her. We shall have occasion to return to this subject more fully later on. Here it is sufficient to have pointed out that beneficially as marriage may act in the struggle against occupational injuries, there are cases where it may under certain circumstances have a totally contrary effect.

Reactionary effects of occupational injuries on married life.—If we consider now the relations between occupational injuries and marriage from the opposite point of view, what reactionary effect have the former on the latter?

It will be possible to dismiss in a few words large portions of the hygiene of occupations as their relations to the married state manifest themselves only in the form of diseases which are dealt with in the several parts of this work.

This applies in the first instance to the entire group of injuries caused by the mechanical action of dust in industrial occupations. We may mention as their most important consequences, the diseases of the respiratory organs which arise in grinders, millers, bakers, etc., in the form of inflammations of the lungs—here there is also a certain amount of caustic action,—in coal-miners, grinders, stone-masons, millers, bakers, ultramarine-workers, spinners, and weavers in the form of chronic pneumonias of a particularly severe kind (anthracosis, siderosis, chalicosis, pneumonie cotonneuse.) These diseases, again, are intimately connected with the origin of pulmonary tuberculosis. Of less importance are digestive disturbances in workers with dust which arise especially through definite chemical properties of the dust.

Among the infectious or parasitic diseases brought about by industrial occupations (anthrax in tanners, butchers, wool-workers, and rag-gatherers; actinomycosis in agricultural labourers and cattle-dealers; worm-disease in miners, brick-layers

and tunnel-workers) there is one which is of the greatest importance as regards married life, namely *syphilis*. It is by no means infrequently circulated, by the glass-blowers' pipe travelling from mouth to mouth, among whole groups of workmen working together. Among the communications published in the last few years there is a dissertation by *Eysel* (1896) who reports on 12 cases of such a syphilitic transmission. In the glass-works of Amelith a syphilitic blower infected 11 fellow-workmen; the primary lesion was in every case found in the region of the mouth. A similar epidemic arose in 1897 in the district Hildesheim-Lüneburg. The infection with tuberculosis also plays a great part among industrial labourers, considering how prevalent this disease of the masses is.

The group of injuries arising through the influence of the temperature, light and humidity, has little to do with marriage. It suffices to call attention to the premature infirmity caused by severe rheumatic affections in workmen who are liable to get wet and are subject to rapid changes of the temperature, and to mention the unfavourable effect of prolonged darkness (in miners) and great heat upon the state of the blood. The sexual over-irritability supposed to be present in bakers has been attributed, without justification probably, to the heat of the bakeries. It is more likely that the principal cause lies in other circumstances to be considered later on.

Pressure and friction against different parts of the body play from the standpoint of married life a more important part in industrial pursuits. Thus we come across the discharging cutaneous inflammations of the genital organs which are frequent in coal-miners and tar-workers but which arise also easily through a combination of dust, heat and active movement, and which are capable of disturbing materially the sexual relations between husband and wife. Their most dangerous manifestation occurs in the form of the scrotal cancer of chimney-sweepers and of workers in tar and paraffin, which necessitates occasionally a complete removal of the genitals.

In a definite group of female workers the employment produces a serious impairment of the sexual life; machinists are said to experience a sexual irritation through the constant friction of

the thighs against one another. This may go so far as to show itself to the experienced observer in a characteristic manner; the machine appears to go at an unusually quick rate, the machinist has a congested face and looks quite absent-minded, and then—after ejaculation has taken place from Bartholin's glands,—she stops as if exhausted and looks around her with some embarrassment. This seems to be therefore a regular masturbatory act, and the causation of such processes by the employment is consequently of the utmost importance to the sexual and married life of the woman. The question is only whether it is not in such cases perverse thoughts that lead to the abuse of the machine.

Closely connected with this are the injuries produced by definite positions, movements and attitudes necessitated by some employments. They gain an importance, as far as married life is concerned, through their influences on the bodily constitution of the women-workers.

The constant sitting position is, especially if combined with a bending forward (seamstresses, embroiderers, flower-makers, female clerks) inevitably succeeded by a crowded condition of the thoracic as well as abdominal organs. Thus there may arise on the one hand anæmia and tuberculosis, and on the other congestions in the genital organs. Catarrh of the uterus and disorders of the menstruation result in consequence.

Particular attention has been devoted to the state of health of machinists in whom the injurious attitude of the body is besides other harmful agencies (bad ventilation in the workshops, poor social conditions), associated also with the uniform movements of the legs. *P. Strassmann* found among 1500 patients of the Charité clinic for women, no less than 356 machinists of whom 136 worked more than 10 hours a day; 18.8% suffered from inflammatory affections of the uterine appendages, a circumstance which *Strassmann* is inclined to attribute in part to a furthering of the ascent of inflammatory processes from the uterus by the treadling movements of the machinist; 21% suffered from uterine complaints; 10.1% had pregnancy-troubles; 17% presented themselves on account of miscarriage; 37% stated that they had had miscarriages at some time or other. That means that there were 139 women,

who from their own statements had had 232 miscarriages and 26 premature labours!

It was at the time objected against this communication that the nature of the employment need not necessarily be made responsible for the frequency of the diseases. The unfavourable social conditions among which these working-women live contribute their share, and the rest is brought about by sexual infections and premeditated abortion. But that a quarter of the number of patients of a large hospital should consist of machinists cannot be merely an accident. *E. Falk* also has recently confirmed that miscarriages and diseases of women are promoted by machining.

Prolonged standing such as takes place in the case of ironers and also in weaving-mills, dye-works, spinning-factories and calico-printing-works, causes injury in two directions: in those whose growth is not yet complete the formation of the pelvis is unfavourably influenced, and it also favours the origin of gynæcological diseases. The straight muscles of the back and the thigh-muscles are constantly on the stretch and where the growth of the bones is not yet finished this increased tension causes a change in the shape of the pelvis. Thus the flattened pelvis is formed which becomes later in life when the woman is married, a source of serious trouble in confinement. *Köttnitz* mentions distinctly that he has often seen these changes in women who had no rickets when they were children, but who began at the age of 14 years to work in weaving-mills. We may here at once call attention to the remarkable analogy that girls who are employed in mines develop besides spinal curvatures fully pronounced pelvic contractions as a result of the crouching position which is in this sort of work necessary. Of women's diseases there arise disturbances of the menstruation and chronic catarrhs of the uterus through the greatly impeded return of the venous blood from the lower half of the body in consequence of the prolonged erect position. If a gynæcological disease is already present it is considerably aggravated by long standing. (*E. Falk.*) The frequency of uterine flexions and malpositions is not explained by the standing as such, seeing that the body of the uterus is usually directed anteriorly and the

erect posture ought, if anything, to cause it to sink still more forward. *Agnes Bluhm* sees—whether correctly is still open to doubt—an intermediate cause in the prolonged fulness of the bladder (due very often to the regulations and arrangements in force at the respective works) by which the uterus is raised and pressed backwards. Perhaps, the women's diseases are to some extent produced also by shocks to the pelvis which affect the erect body from below. This is supposed to explain the remarkable prevalence of these diseases among weavers as compared to spinners (according to *Schuler* in the proportion of 48 to 27).

Occupational intoxications.—Of more than ordinary importance are the relations between the occupational intoxications and married life. Here we must enter into closer details.

As regards the most important of all these intoxications, namely lead-poisoning or chronic plumbism or saturnism, we know that it occurs very often and in the most different industries. Workers in white lead, sugar-of-lead and accumulator factories, potteries, compositors and painters probably supply the principal contingent, but there are several more, in fact many more industries—according to a recent calculation one hundred and eleven—the workmen in which are subject to chronic lead-poisoning. We have only to recall in a few words how dangerous and even destructive plumbism is to the physical and moral companionship of married life and to the material circumstances associated with it. The influence of lead-poisoning on the offspring is, however, less generally known.

It must be regarded as proved that lead-poisoning of the father, and particularly of the mother, impairs severely the vitality of the progeny. The stronger influence of the maternal disease is easily explained by the passage of the poison through the placenta to the fœtus, as has been experimentally demonstrated in guinea-pigs by *Porak* and *Ballaud*. The milk, too, occasions a further injury. In a case specially examined upon this point, 115 grammes of milk contained half a milligramme of lead. It was also possible in the child of a woman with lead-poisoning which died when 7½ months old, to ascertain a con-

nective-tissue degeneration in several organs and the presence of lead in the liver and in the kidneys. The extraordinary frequency of miscarriages in patients suffering from plumbism is in full agreement with this. It is surely no accident that *C. Paul* has seen out of 142 pregnancies of lead-poisoned women only 10 children born that survived their third year. Miscarriage occurred 82 times, premature labour 4 times, 5 times dead children were born, 20 children died in their first year, 8 in their second and 7 in their third. *Ballaud* has recently examined the question experimentally. Of 8 pregnant guinea-pigs poisoned with lead, 5 miscarried, and one died during the pregnancy. Two were delivered at the proper time, but the young were very small and delicate. Clinically the results were similar. Five lead-poisoned women gave birth out of 27 pregnancies to one living child only. Six women who before working with lead had given birth to 10 mature and living children obtained while they were thus employed only 8 living children by 43 pregnancies, 4 of whom died in their first year and only 2 survived their first years. Six women with lead-poisoning of a milder character brought into the world by 29 pregnancies 8 living (and 12 mature but dead!) children. Three others, while working in lead, had miscarriages constantly, but after giving up this kind of work gave birth to healthy children.

After these revelations, confirmed also by others, it would be an exaggerated scepticism to doubt the highly injurious effect of industrial lead-poisoning on the offspring. Most remarkable observations have been made by *Rennert* with regard to children of lead-poisoned patients in a Hessian pottery district. He found in these children, apart from rickets, even in the youngest, remarkably large, angular skulls with very prominent frontal and cranial protuberances. A large number of these children suffered from convulsions, many died from them in infancy, and several became idiotic. The convulsions had the form of tonic-clonic contractions and appeared either independently or as accompanying symptoms of other diseases of all kinds.

What gives to these observations a peculiar importance is the fact that the wives of the lead-patients were in part per-

fectly healthy women, that they had not even any blue line on the gums, and that the children nevertheless had misshapen skulls and were suffering from convulsions.

This is therefore from all appearances a severe deterioration of the paternal germ-plasma resulting from the poison.

Of other trade-poisons mercury stands next to lead in its destructive effect upon the whole organism. But the observations as regards the influence on the offspring are, considering the smaller number of the trades affected (principally mirror-makers), less numerous and less uniform. The question especially whether mercury acts as an abortive, is not yet cleared up. The argument that mercurial treatment of syphilitic pregnant women does not affect the fœtus and that, on the contrary, it is helpful to it (*Brouardel*), is at all events not quite tenable. The inunction cure does not under other circumstances either, cause such severe harm to the organism as chronic mercurial poisoning. That children of female mirror-makers are often delicate and sickly has several times been described. According to *Hirt* their mortality in the first year amounts to 65%. A worker in mercury married three wives in succession of whom two had already been mirror-makers and the third became one afterwards. All the children died from atrophy except the one by the third wife which was born before she started working in the factory.

There is little justification for the statement that female match-makers and female workers in borax-factories are often inclined to miscarriages.

Much has been said for and against the influence of tobacco-work on the offspring of the very numerous women who are employed in this branch of trade. For some time it was considered beyond all doubt that tobacco acts as an abortive. One doctor went so far as to maintain that the miscarried fœtus of a tobacco-working-woman had smelt strongly of nicotine. Recent and extensive investigations (*Heurteaux* and *Ygonin*, *Piasecki*) have, however, shown that female tobacco-workers are no more given to miscarriages than other women belonging to the same class. Nor need the very high mortality among the children of these women necessarily be due to the effect of

poisons. These children often spring as a matter of fact from especially delicate parents who have for this very reason chosen this light mode of employment, and who, in addition, often lead a very unhealthy and unsteady sort of life. At all events it should not be ignored that according to recent statistics in Nancy there are 27 deaths to every 100 births among female tobacco-workers, against 17 in women working at other trades and that the number of deaths is supposed to be smaller if the mothers do not suckle the children but give them the bottle instead. (?) In younger women working in tobacco, disorders of the sexual organs are said to occur so often that one is obliged to assume a toxic action (*Schellenberg*). Recent reports of German factory-inspectors also emphasise the enormous infantile mortality, even where the state of health of the male workers has been found to be rather better than the average. In the tobacco-locality Goch (Rhenish Prussia) the infantile mortality as regards the whole of the population amounts in the year to 0.8%, that relating to the cigar-makers to 3.2%. This shows, at any rate, that the industry is not without its dangers so far as the offspring is concerned.

The last of the industrial poisons that interest us here is the disulphide of carbon which is extensively employed in the rubber-trade and which is a severe nerve poison. We need not dwell long on the nervous troubles and psychical disorders which it produces. Nor is it of any material consequence that it is more or less rightly looked upon as a cause of miscarriages. But it has a very remarkable and fully demonstrated effect on the sexual faculty. It happens, as some say, that in those who work with this poison there is first an increase of the sexual desire (see *Morphia*). After a time, however, the desire diminishes, so that among the well-established signs of chronic CS₂ poisoning, complete impotence is included. Of the many observers who have given attention to this chronic CS₂ poisoning only one has not noticed this effect, whereas numerous others have confirmed its existence. According to the first investigator of this subject, *Delpech*, who is still regarded as an authority, even structural atrophy occurs in the testicles, but this is at least not the rule. The women, too, become sexually insen-

sitive, they suffer from severe menstrual hæmorrhages, and their breasts are said to become shrunken.

Occupation accidents.—We may interpolate here the industrial accidents as a special group of occupational injuries. Whereas other illness-producing causes act as a rule gradually and the individual in question can to a certain extent adapt himself to their consequences in his entire mode of life, an accident means a sudden occurrence which brings with it very often a severe psychical perturbation. In this way, and by a combination with purely physical changes and complaints, arises the extraordinarily frequent clinical picture of accidental nervous debility, of which it may be said that it plays in married life a far more serious part than the nervousness which develops gradually on the basis of other causes. In the first place accident-neurasthenics possess an irritability which makes itself apparent to their families in a most unpleasant manner. There often occur, especially under the influence of alcohol, regular outbreaks of madness. Husband and wife can no longer agree, the children are not allowed to stir, as the father easily loses his temper. These patients have, besides, an inclination to devote all their thoughts to the matter of their claim for compensation, to exaggerate their disablement and to give up, in consequence, every attempt to start work again. He, who is in the habit of seeing many that have been injured in an accident, knows what a melancholy sight their married life often is, and that it is not by any means rare for the wife to leave the husband entirely. The circumstance that there results as a rule in severe accident-neurasthenics, in consequence of the psychical inhibition, an extinction of the sexual desire, probably also plays a part in the matter. There are eminent experts who look upon this almost as a diagnostic sign, and who refuse to admit a severe accident-neurosis if the injured man has since the accident procreated a child.

Injuries of the male sexual organs through accidents are rare. The female sex is oftener affected in this respect. And here again it is the pregnant woman who is most subject to danger, for a slight over-exertion, a moderate blow may become calamitous to her. But some of the trades in which women find

employment are not infrequently associated with very much more serious risks of accidents. Thus attention was recently called to a method used in book-binding establishments and fancy-paper factories which employ women as well. The presser must seize a lever which is situated high above his or her head, ascend on a projection which juts out underneath the lever, jump down from it and throw himself or herself with full force backwards upon a mattress lying on the floor.

Overwork.—Besides these industrial injuries which after all affect only single groups of individuals or single persons, belonging to the army of workers, there remains yet one large injury to be discussed to which everyone who works is more or less subject and which causes either by itself or in combination with other unhealthy influences, most mischief to married life, namely occupational over-exertion. It acts in three forms: as work which is too heavy, as work which lasts too long and as night-work. The first two have always a health-deteriorating effect if carried on for a length of time, the third very often so, since day-time does not allow so complete a rest as the night with its absence of disturbing elements.

It is impossible, in discussing these subjects, always to maintain a strict line of division between the socio-medical and the purely social standpoints. Hunger, ill-humour, mental bluntness, all these are not symptoms of disease, but they are the auxiliaries and precursors of diseases, and we cannot therefore ignore them altogether in our observations. It is necessary to point out that the over-worked labourer loses all sense for everything which does not exert upon him a coarse sensual irritation, and consequently also for the more intimate psychical relations with his family, for a comfortable home, for the education of his children. It is a fact, for instance, that waiters who work exceedingly late hours, often do not see their children for weeks otherwise than asleep.¹ And if there is any-

¹Translator's note: This applies mainly, if not exclusively, to continental conditions, as on the continent public-houses, restaurants, cafés, etc., are open, if not all night, until the small hours of the morning. But this observation applies no less to tramway-men, and such like, and the story of the London 'bus conductor who demanded the fare from a little boy and was astounded at the answer, "Why, father, don't you know me?" is probably based on fact.

thing yet which attracts the wearied and over-fatigued man, it is the public-house, the place of amusement and extra-conjugal sexual pleasures. This applies just as well to the lowest-class labourer as to the merchant or scientific worker. In addition to this it happens that men who are so over-engaged with their work and who have nothing psychical to offer to their wives, are in their turn neglected by the latter. If the wife does not find in her married life that intimate and satisfactory companionship which she had hoped for, she gets tempted to look for compensation outside her home. Even the purely sexual relations can suffer through the overwork of the husband. This can show itself in different ways. There is a form of physical fatigue which is accompanied by sexual over-irritation. The exhaustion of the nervous system is then present to such an extent only, that the inhibitions fall away, while the lower centres assume a state of irritation. Thus it is known that soldiers after a long march are sensually considerably more excited than when at rest. Attention has already been called to the sexual irritability of bakers which must be attributed more to the exhausting influence of the night-work than to the often-cited effect of the heat of the bakeries. In other persons, however, and under different circumstances overwork acts paralytically on the sexual sensations.

Mental overwork, especially, which keeps a man busy during his proper leisure hours, is also known to have a dilatory effect on the evolution of the sexual feelings and inclinations in spite of a well-preserved sexual faculty. Those who know the public best, namely non-medical "inventors," are not wrong when they address their effusions on aphrodisiacs, etc. by preference to men who have been "deprived of their finest powers by intensive mental exertions."

One of the most frequent consequences of overwork is the general nervous weakness, the hurtful influences of which as regards married life are fully dealt with in another portion of this book. If this is in its simplest form a malady which is at all events curable, the same thing cannot be said with respect to another change which springs from the same source, namely premature old age. Those who have frequent opportunities

to testify in matters relating to annuity-claims, very often come across men who at the age of 50 or 60 are absolutely used up, bent, faded, dull, affected with all sorts of nervous complaints and degenerative processes in the vascular system. These people are easily distinguishable from those who have become prematurely old through alcoholism. They are men whom one may believe to have worked steadily all their life long. They belong very often to callings in which other injuries have also co-operated besides the hard work; metallic vapours, great heat, want of light. A classical example of such premature old age is seen in miners who at the average age of 50 are totally exhausted and suitable for superannuation, as proved by *Schlockow* at the hand of official tables. In an English Blue-book it is said of the Cornish miners: "If they have reached middle age, their health goes rapidly downwards, their strength sinks visibly, and at 50 years of age the miner is, in popular language, an old man." This means that at an age at which the father of a family should find himself in his prime, many members of the working-class are already useless and in need of assistance.

The over-exertion of working-women is even more closely related to married life. Female workers begin industrial work as a rule when they are very young and their bodies are by no means yet developed. Should they be exposed to an excess of work their entire evolution is most unfavourably influenced. They become anæmic, nervous, affected with menstrual troubles, and when in after years marriage permits them to escape from further industrial injuries, these maladies are often so established that the sufferers are totally useless as wives and mothers. They are sickly from the very commencement, irritable, and when they bring children into the world, they cannot suckle them. As they have not as a rule learned how to conduct a household, how to cook and how to manage children, such marriages are generally utter failures.

What degree of occupational exertion may be regarded as excessive, is of course different in different individuals. Generally speaking men are equal to more laborious work than women, and among them again, adults to harder tasks than those who are still in the stage of development. The limit is

at its lowest in married women, because they have in addition to their outside work, to look after the house and the children. There is no exaggeration in saying that every married woman who works during the day at some factory or mill is overworked, as stated clearly and to the point by *Köttnitz* in his capacity as reporter to the 58th Congress of German scientists and doctors. She must either neglect the care and cleanliness of the household, the material wants of her family, the supervision of the children, or her work does her no credit, or else she escapes neither the one evil nor the other. This double burden causes her the most suffering when she is pregnant or shortly after she has been confined. During pregnancy she has in addition to her work to endure the inconveniences connected with this condition and to exercise every necessary care that that condition should not be prematurely interrupted or become dangerously complicated. After the confinement every prolonged industrial occupation affects her equally unfavourably, no matter whether it necessitates a constant sitting position during which there is an increased pressure in the abdominal cavity, or long standing in which the still lax ligaments permit a sinking of the uterus which is on account of its larger size heavier than normally; no less injurious is heavy lifting in which the abdominal pressure acts upon the internal sexual organs. There arise flexions, prolapses and inflammations of the uterus, vaginal prolapse, in brief a whole list of women's diseases. As a result of all these troubles the woman becomes peevish, irritable, ugly and old. She loses every attraction in the eyes of her husband, becomes finally unable to assist as a bread-winner—and the end-result is again an unhappy married life.

The great inconveniences which are in a married woman associated with the propagative act, naturally create one particular wish: "no more children!" And the way in which this desire is carried out in practice is unfortunately as a rule a most inappropriate one. First, the woman attempts to refuse her husband's legitimate demands; she thus practically urges him to indulge in extra-conjugal sexual intercourse, or else there are quarrels and scenes between the imperious husband, who often insists upon his right in a rough manner, and the poor

tormented wife. In the end an opportunity presents itself and often enough it is the worst possible one, namely alcoholic influence, when the barrier is broken. If pregnancy then supervenes, attempts are made to bring on miscarriage and this only tends to aggravate the evil.

But the children, too, suffer through the industrial overwork of their parents. Exhausted and prematurely used-up people cannot be expected to procreate healthy and strong children. Mothers who work at a mill, cannot suckle their infants, and they expose them therefore to all the risks which an artificial and generally insufficiently controlled nutrition involves. Through the absence of cleanliness and supervision the children are attacked by skin diseases and the whole host of infectious illnesses.

All these are well-known things. But not so much is known with regard to the immediate influence which work during pregnancy exercises upon the quality of the offspring. Two French doctors (*Roger and Thiroux*) have in the last few years investigated how long pregnancy lasts in working-women if they work during the whole of the time of gestation, and how long, if they do not work during the last months, and what the average weight of the children brought by them into the world, is. The result was convincing enough:

Of 820 women who had worked up to the time of delivery, the period of gestation (date of last menstruation-confinement) consisted of

280 days and more in	282	women
260-280 days	" 279	"
Less than 260 days	" 269	"

Of 1000 women who gave up work in the last months, or at any rate in the last month, and who were maintained at the clinic for women, the duration of the gestation-period amounted to

280 days and more in	660	women
260-280 days	" 214	"
Less than 260 days	" 126	"

Moreover, 391 primiparæ who had worked up to the confinement, had children of an average weight of 2931 grammes, whilst 298 primiparæ who had rested for 2-3 months before the event, had children of an average weight of 3291 grammes. In multiparæ the average weights of the children were 3116 and 3457 grammes respectively.

Similar results are recorded in a work by *Pinnard* compiled last year, which contains statistical tables of an equal kind.

In other words: the children of women who work through the whole of the gestation-period are born too soon and are more delicate than the average working-man's child.

On the whole, the children of working-women are situated according to a comprehensive statistics by *Cury*, alarmingly like illegitimate children as regards their mortality. In Saxony the infantile mortality, reckoned by districts, is in direct proportion to the extent of female factory-labour. The district of Chemnitz with its numerous industrial population and a very extensive employment of women, stands high up in the list. Of 100 children in their first year of life, in Dresden, 20.7 died; in Leipzig, 23.7; in the town of Chemnitz, 34.2; and in the Chemnitz district, 39.2. Chemnitz occupies as regards infantile mortality the second place in the whole of Europe, and the first in the whole of Western Europe.

There are finally in this connection the large statistics of *Mayet* extending over a period of more than 25 years, which prove that in contrast to epidemics and diseases generally, the acute gastro-intestinal affections to which infants are most subject, have materially increased in number. In localities with more than 15,000 inhabitants 287.8 per 100,000 individuals died from 1897-1901 from these diseases, which is more than in any previous quinquennial period. This is the more serious as the number of live-births per 100,000 inhabitants has during the period diminished. *Mayet* draws the simple conclusion that the high figure of the above mortality is a consequence of the greatly increased participation of women in industrial pursuits: on account of their being otherwise engaged the mothers are prevented from suckling their infants and the latter fall victims to the artificial mode of nourishment. It seems,

however, rather one-sided to attribute the higher infantile mortality from gastro-intestinal troubles to female labour exclusively. The increase of alcoholism, the growth of the proletariat among the population, and similar influences also play an important part, but that female labour is here a co-operative factor of no mean order, it is impossible to deny.

A few words on racial hygiene would seem to be here not altogether out of place. One might feel inclined to regard occupational injuries as a necessary accompaniment of the struggle for existence and as having a tendency to favour the weeding-out of the feeble and of those who possess a diminished value as propagators of the race. But with a few isolated exceptions this would undoubtedly be a mistake. For exactly like alcohol, so occupational injuries create new causes of degeneration in races who would otherwise be strong and valuable. We need only think of the action of the industrial poisons which affect indiscriminately both the healthy and the diseased, of the occupational diseases of the female genital organs and of the pelvic malformations, of the shortened gestation-period which causes children of healthy parents also to come into the world delicate and sickly. The gastro-intestinal catarrhs of the infants which are produced indirectly by the injurious agencies of our industrial life also do not kill the delicate and tainted children exclusively or even principally, but equally thousands of excellently developed individuals who promise much for the future of the race, while on the other hand numbers of absolutely useless lives are spared among classes that are industrially injured to a less extent. Nor must it be imagined that individuals who were born or have become degenerate are more easily weeded out through the influence of occupational injuries than among the better situated classes, which would, indeed, bring about an improvement of the race. On the contrary, there are nowhere so many living cripples as in industrial districts. Thus there were recently numbered in the province of Saxony 1512 crippled children to a population of 2.8 millions, and about 3 times as many adult cripples, while in the Rhine province there are no less than 49,508 cripples of all sorts leading a miserable existence. It is expressly stated with reference to these unfortu-

nates that the productive cause of cripples lies far less in injury and mutilation than in disease and insufficient nursing.

Combating of the injurious influence.—Although, judging from the above remarks, we must regard the influence of occupational injuries on the married state as a very serious one, we must in our capacity of medical men acknowledge that we can do very little to combat that influence in every individual case. Occasionally the circumstances relating to our patients may be of such a nature that a warning on our part to avoid certain injurious influences of their calling for the sake of their married life, may not remain altogether fruitless. Even among working people this may sometimes be the case; there are working-women who follow a strenuous occupation in spite of the sufficient earnings of their husbands and whom judicious medical advice may, perhaps, induce to discontinue it. But in one direction particularly medical men can do much in averting untold mischief and trouble, that is with reference to the prevention of pregnancy by working-women or by women who are ill in consequence of occupational injuries. The question of the attitude of a medical man in the presence of women who do not wish to have any more children, is always a delicate and ticklish one. There are yet doctors who say that to give advice how conception may be avoided, is against all medical ethics, and that there are exceedingly few cases which justify an exception to this rule. But if we look upon medical ethics not as an unalterable law dictated by blind instincts, but as the outcome of moral feelings and of a sensible understanding of the object and consequences of medical action, we arrive at different results. It can never be the moral duty of a doctor to co-operate towards the bringing into the world of numbers of individuals who are sure to fall victims to poverty, misery and disease, for no other purpose than that there should be descendants procreated, numerous as to quantity but of a highly doubtful quality. Now we have seen and shown by figures that where the wife follows an employment or where she is in consequence thereof of delicate health, a large number of children causes her to become bodily and mentally infirm, and the children themselves to turn out more or less degenerate or to die prematurely in a great many

cases. It is also so well known that the women have recourse to unsuitable and even injurious means of helping themselves, that nobody can deny it. We think, therefore, that just as in the case of women who suffer from pulmonary, cardiac and severe nervous diseases, so in the case of those who are exposed to occupational injuries and who have already on that account lost a part of their former vigour, no medical man should refuse his advice as to how a large number of pregnancies can be avoided by lawful and morally admissible precautions. It is, however, impossible for individuals, in this instance the medical profession, to undertake the chief task in the protection of married life from the dangers arising from occupational injuries; this is the concern of the community, of the State. On principle this obligation has now been admitted by the Western European countries to a far-reaching extent. They have created protective factory laws which are in the first place intended to safeguard the health of the person employed in the various industrial occupations against the influence of avoidable injuries.¹

German legislation has in some respects done rather more than that of other countries. As regards female labour particularly, the protective regulations are in Austria much less comprehensive, and Hungary has hardly any. The protection of parturient women extends in Holland, Belgium, Portugal, Austria, Denmark and England over 4 weeks only, France has no protective arrangement of this kind at all. Belgium still allows women over 21 years of age to work underground, a social-hygienic backward state of affairs, sad to contemplate.

¹Translator's note: Here follows in the German text a reference to the various laws and regulations in force in the German Empire, all of them intended to protect workmen against accidents and disease. The list embraces almost every trade which involves a risk of some sort. Some few laws fixing the hours of labour in certain trades have also been passed with a view to preventing overwork. Special laws exist for the protection of women and children. The former may not work at night-time, nor may they work more than 11 hours daily, with an hour's interval of rest. Of importance is a regulation which besides prohibiting parturient women from working during the first 4 weeks after the confinement, permits them to work during the two weeks following these 4 weeks only on presentation of a medical certificate that they are fit to do so. Women are not allowed to work in mines underground. In other trades they are permitted to work under certain restrictions.

Russia has, generally speaking, regulations only against the night-employment of women. Each of the United States of America has its special laws, and several of them are very little advanced in matters relating to the protection of the working-classes.

On the other hand Germany is considerably behind other countries in other respects. Austria has introduced the normal working-day (11 hours) for all trades carried on by means of factories. In France there exists from April 1st, 1904, a working-day of ten hours for factories with mixed employees, and one of 9 hours with regard to the coal-mining industry. In Switzerland adults are allowed to work at the most 11 hours daily, on the eve of Sundays and holidays only 10 hours. Recently the National Assembly has passed a bill according to which no more than 9 hours' work is allowed on Saturdays in mills and workshops, and that must include cleaning up, and work must, besides, cease at 5 o'clock the latest. Abstention from work on Sundays is in England and North America carried out more strictly than in Germany.

As regards female labour, Switzerland stands, perhaps, first with its legislative achievements in social-hygienic matters. All Sunday-labour by women is there prohibited. Pregnant women may be excluded entirely from certain trades by the executive government. The prohibition of work associated with the puerperium begins with the end of the last week but two of the gestation-period and does not terminate until the expiry of 8 weeks. Some of the cantons go in a few details further still; partly they extend the legal protection to employees of business establishments, etc., partly they prohibit every over-exertion by pregnant women or they shorten the time allowed for work. The city of Basle is about to restrict the working-day to ten hours, and in the case of shops to 10-11 hours. In Great Britain women may not be employed in the mining industry more than 10 hours a day, and in the textile industry more than 56½ hours weekly—on Saturdays not later than 2 o'clock in the afternoon;—in non-textile industries they may not work more than 60 hours a week—on Saturdays not later than 3 or 4 o'clock in the afternoon. Italy has after a great deal of hesitation adopted

in 1902 a law relating to the labour of women and children which is full of significance. Every employment of women and children must be notified to the respective authorities and is subject to special supervision. Minors under 15 years of age may be employed only if in possession of medical certificates as to their state of health and strength, and then only in such trades as are not dangerous. Women must have with a working-day of 6-8 hours, one or several intervals of rest amounting in the aggregate to at least one hour, with a working-day of 8-11 hours, 1½ hours of rest, and with more than 11 hours' work, 2 hours of rest. They must have one full day of rest in the week, besides. Working-women who suckle their children must be allowed time for this function without any deduction from their wages, and special accommodation must be provided for the purpose, away from the work-shop.

The influence of a considerable number of occupational injuries on married life is certainly lessened by existing laws, and partly altogether excluded. Nevertheless, it is necessary that we medical men should urge the necessity of further extension of the hygienic laws applicable to the various trades. So far as Germany is concerned, more regulations are wanted for fixing the maximum hours of the working-day in exacting trades and for protecting the workers engaged in trades dealing with poisonous substances.

As regards the employment of females, the last aim should really be to keep away all married women from such work that alienates them from their domestic duties. There are already at the present day employers, for instance the well-known manufacturer Brandts in München-Gladbach, who do not employ married women under any circumstances, as they are convinced that the social evil is thereby aggravated. But it is impossible yet by laws to carry out such an exclusion in practice, as in localities where wages are low or where the husbands do not for some reason or other earn enough, poverty forces the wives to seek work too.

But for this reason we medical men must support all the endeavours which tend to shorten the working-day of female workers. From the hygienic point of view the demand of a

ten-hours-day for women does not seem unreasonable but absolutely justified. It is all very well to say that women do not need such short hours as their work is usually lighter than that of the men—but then we must not forget that they have also other duties to fulfil. Those who are not married must prepare for the time when they will have a household of their own to manage and children to bring up; it is not, therefore, sufficient to give them such chances only as philanthropists put in their way for acquiring a knowledge of these things, they must have time and opportunity for practice as well. And as to the married women, who can deny that every hour during which they are absent from their domestic duties, is a source of trouble to the entire family?

If some very experienced employers maintain that they have not noticed any deterioration in the health of women through prolonged work, this can but be attributed to their deficient power of observation, which is, after all, nothing extraordinary. Medical experience has, on the contrary, shown that in the few trades left yet in which a working day of more than 10 hours is still customary, and especially in the textile branch the general state of health is not a satisfactory one. One may retort that this is due to bad hereditary predisposition. But as *Gruber* rightly pointed out not long since, this inherited weakness is also nothing but a consequence of the over-work and under-feeding of former generations, so that a suitable mode of life and less wear and tear of the present generation would seem to be the only means by which to improve the race.

For the same reasons which prompt us in demanding a maximum working-day of ten hours, we must insist upon Saturday afternoon being a half-holiday for the women-workers. They want these few hours to put their houses in order, to bathe the children, to mend their clothes and underwear, etc., etc. Sunday ought to be a day of rest in the full sense of the word.

As doctors we ought further to try to succeed in having all industrial work by women in their last months of pregnancy prohibited. This is, of course, possible only by giving them compensation for the loss of wages thereby incurred. Whether

and how this can be done at the present juncture is purely a matter for social-political consideration.

The protection of parturient women requires in so far supplementing as the assistance given them in Germany by sick-clubs in accordance with the requirements of the law (half the daily wages) is insufficient. The increase in the amount up to the full extent of the wages which is already permitted, should be made obligatory as soon as possible. The protective regulations should be made applicable to all working-women especially also to home-workers.

Further extension is also required as regards the care, by the State and private charity, of the children of working-women, especially in the direction of suitable nourishment for those whose mothers are either prevented by their employment from suckling them or not permitted to do so on account of their occupational intoxication.

When the International Congress for the protection of working-men was sitting in Berlin in 1890 the Emperor William addressed to its members the following words:

"The prohibition of work by parturient women is closely connected with the improvement of the race. For this reason money ought to be of no importance in a question of this kind."

This dictum applies equally to all the other measures for the prevention of the injurious influences of occupational evils on or during married life. And we doctors are from our experiences entitled, as we are in the interest of the public health obliged, to call attention to those evils and to point out the remedies necessary for their removal.

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XXVI

**Medico-Professional Secrecy in Relation to
Marriage**

XXVI

MEDICO-PROFESSIONAL SECRECY IN RELATION TO MARRIAGE

By **S. Placzek**, M.D. (Berlin)

Most medical men still enter upon their career full of self-denial and ready to sacrifice their lives for the benefit of suffering humanity, but without a knowledge of the obligations which the laws of their respective countries impose upon them and the non-fulfilment of which is liable to cause them serious trouble. It is true that a beginning has in isolated cases been made to fill up the gap, but the attempt is so far a very limited one, and yet there is no doubt that a doctor wants to know the legal enactments which govern his professional activity just as well as the methods by which to treat disease successfully, if both he and his clients are to be saved from possible damage of a severe kind.

Professional secrecy is to a German doctor not only an ethical obligation but one imposed upon him by law. It is prescribed by § 300 of the German Criminal Code which says as follows:

Solicitors, barristers, notaries, defenders in criminal proceedings, doctors, surgeons, midwives, chemists, and also the assistants of these persons are liable to a penalty not exceeding £75 or to imprisonment up to 3 months, if without just cause they divulge private secrets which were entrusted to them in their professional capacity, or on account of their position or business. A prosecution can take place by summons only.¹

¹Translator's note: In contrast to this distinctly expressed prohibition of the violation of professional secrets according to German law, the English law is silent on the point so far as the criminal law is concerned, and the matter is one of civil proceedings purely, that is the person aggrieved may

"Doctors" in the sense of the law are all legally qualified medical men, even though they have retired from practice (*Olshausen*, Komm. Observation 4, *Oppenhoff*. Komm. No. 5). To the same category belong also foreign medical men if they have committed the offence in Germany. What is, however, questionable is whether unqualified persons who practise the profession of medicine are also included. Whilst *Schwarze* answers the point in the affirmative, as he lays stress on the simple fact that the law imposes a professional obligation merely, *Olshausen* and *Loewe* are of a contrary opinion. (*Löwe*. Komm. zum Strafpr. p. 257.)

Besides the doctors themselves, their assistants also share the obligation. From the preamble it would appear that this was intended to apply to all those who in consequence of their co-operation, no matter how unimportant, are often just as much initiated in the secrets of the persons requiring medical aid as the principals themselves. The law regards, therefore, as an "assistant" not only an attendant, servant, nurse or any other similar person; a student, too, as long as he assists a doctor is looked upon as an "assistant," although he exercises no profession.

A "private secret" is in the first instance every statement made to a doctor as such, with the express request to keep it secret. Such a request is also considered to exist if it is apparent that those persons with whom the doctor as such is dealing, are interested in the secret being kept. The most recent definition of the word "private secret" includes in a similar manner all those observations which it is not in the interest of the person confiding the secret that they should be imparted to others, but which are on the contrary likely, if publicly known, to impair or injure his honour, reputation, or family-concerns.

sue for damages for defamation of character. As it has always been an honourable law with the medical profession that confidential statements made by a patient to the medical adviser are held to be inviolable secrets, as are also facts come to the knowledge of the medical adviser through an examination of the patient, both judge and jury are generally on the side of the latter and very convincing evidence is required to satisfy them that a medical man who has divulged secrets thus known to him, has done so for no other reason than a sense of duty. It is also for the judge to say whether the divulging of the secret was privileged or not, and for the jury to decide whether there is any truth in the statements made, if justification is pleaded.

By "divulge" is meant every kind of communication; all that is required is that the fact which should be kept secret, has been made known by the doctor to some other person.

"Entrusted" to the doctor is everything that he observes while exercising his profession, consequently all that he learns solely in his capacity of medical adviser including such points as are not really part of the illness for which he is consulted.

A communication is punishable if it is made "without just cause." This is the case if the person entrusting the secret has not given his consent to its being divulged, unless legal enactments compel the doctor to say what he knows or permit him to do so. The latter possibility is created in the first place by § 139 of the German Criminal Code which imposes a punishment upon those who being in possession of credible information at a time when it is still possible to prevent the perpetration of a crime, that such a crime is about to be committed, do not acquaint the authorities of the matter.¹

Doctors as witnesses.—Then there is a second possibility where a doctor is called as a witness before a court of justice. In this case medical men are entitled to refuse to give evidence "in consideration of what has been entrusted to them in their professional capacity." (§ 52 of the Criminal Pro-

¹Translator's note: The English law on this point is very unsatisfactory, and a definite decision is very much wanted. While communications made to solicitors by their clients are considered privileged, no such privilege attaches to information given by patients to their doctors, and the view of the police is that it is the duty of the medical profession to assist them in detecting crime. Among the medical profession, however, a different opinion prevails, and no doctor thinks that he is under an obligation to play the informer or the detective. He must not, however, do more than maintain a passive silence or else he exposes himself to the risk of being regarded as an accessory after the fact. On the whole, the position is that every case depends on its merits, and a great deal of tact is, therefore, necessary. As a well-known authority—Professor *Dixon Mann*—puts it, "the rule is, never to violate professional secrecy, but like any other rules it may have its exceptions." An exception of this sort was recently made by a doctor whose timely interference and information to the police saved some lives and brought a notorious murderer (Chapman) to the gallows; on that occasion everybody agreed that the case redounded very much to the credit of the medical profession.

cedure and § 348 of the Civil Procedure.¹) It is left "in every case to the doctor's sense of duty and discretion" to decide whether he will or not give to the judge the desired information. There can consequently be no question of a breach of the penal enactments when a doctor thinks it best not to insist upon his right to refuse to give evidence. Still, there is no final decision on the point by the highest court, so that if one wants to be "absolutely safe" he will always refuse to give evidence, unless his own conscience forces him to adopt the opposite course.

Having now given a brief explanation of the legal terms, let us consider some of the manifestations wherein the subject of professional secrecy arises, especially in relation to marriage and the married state. I cannot in the space at my disposal enter fully enough into the matter, but those who desire to become acquainted with the various aspects of professional secrecy as it affects the medical man, will find all that is worth knowing in my book "*Das Berufsgeheimniss der Aerzte*," which contains also a detailed bibliography. (2d edit. Leipsic 1898.)

1. Before marriage.

The extraordinary diversity of medical practice very often places doctors in the unpleasant situation of having to choose between the injunctions imposed upon them by the different laws and the dictates of their own consciences. The progress made in recent times has had the result that very frequently in matters matrimonial the last word is spoken by the medical adviser, and that in individual cases it is only by his determined opposition that danger to other persons is averted. Let us suppose the following case which happens often enough to every practitioner:

Collision between the law and ethics.—A patient suffering from chronic gonorrhœa tells his doctor that

¹Translator's note: This is exactly the opposite of what obtains in English courts of justice. No medical man may refuse to give evidence on matters upon which he has professional knowledge if directed by the judge to do so, while a solicitor may. He has no option, and is liable to be committed for contempt of court should he persist in his refusal.

he intends to marry shortly. The doctor who knows the infectious nature of his patient's illness, warns him accordingly. He represents to him most earnestly the unhappy consequences of such reckless and unscrupulous conduct. Aware of the terrible results which an infection is likely to have in the prospective young wife, he describes to him in vivid language the chronic illness which awaits her. But the words are uttered in vain, the patient replies, perhaps, that it is not criminal negligence but external circumstances, which force him to adhere to the day fixed for the wedding.

Now, what is the doctor to do? May he in his solicitude for an innocent young life and in his anxiety to save her from certain misery, communicate with and warn the family of the bride that is to be?

Another example: A doctor knows that a patient whom he is treating for syphilis which is by no means yet extinct, is engaged to get married. To his question whether he may take this step, the doctor answers that a minimum interval of 3 years without a relapse is a comparative guarantee of a cure. The patient confesses that unavoidable circumstances have obliged him to fix the wedding-day on a near date, and that a postponement is impossible. He has not the courage to reveal the truth by an open and honest confession. In vain the doctor describes to him the risk of an infection to which he subjects his future wife and which might mean the destruction of her life's happiness and of that of the eventual family. But all warnings remain fruitless, and the question arises, must the doctor look on calmly and let a misfortune happen which he could prevent? Is there nothing else for him to do but to act in accordance with the law?

The answer is that the law admits of no exceptions and that he has no right to divulge what has become known to him in his professional capacity, no matter how dreadful the consequences may turn out eventually.¹

¹Translator's note: The whole of this article is written from the point of view of a German doctor, and is therefore not applicable to English and American conditions. It makes, however, interesting reading and for this reason I have translated it practically in its entirety.

But may the law compel us ever so mercilessly, there is another law, namely the ethical principles which govern our actions, that must be our guide. In the full consciousness that he can render help and prevent misfortune, is there a doctor who will not brave the risk of legal punishment rather than countenance a disgraceful conduct?

Now, is there no way out of the difficulty? Must a doctor if he is not desirous of martyrdom for the sake of his conscience, permit unhappiness to overcome innocent people in every case? Is he not able by a veiled revelation of the facts to warn the people concerned, to arouse their suspicion that everything is not well, and to cause them to break off the contemplated alliance, without incurring the penalty of the law?

It cannot be denied that such a possibility exists in isolated cases, but the proceeding is, nevertheless, not without its dangers, although *Brouardel* is of a different opinion (*Le secret médical*, 1887, Paris). He succeeded in a case where the future father-in-law of the patient was praising the latter and dwelling upon his excellent prospects, in convincing him of the necessity of life-insurance on the part of the prospective bridegroom. He pointed out to him in general words that in similar cases in which his advice had been disregarded, most disastrous consequences had resulted, and how through unforeseen circumstances the families had been left totally unprovided for. As in the case in question, the future son-in-law who was suffering from syphilis, naturally refused to be medically examined, the projected marriage fell through.

Brouardel's method was certainly very ingenious, and he no doubt did not by it reveal a secret entrusted to him, but a breach of confidence towards his patient he committed, nevertheless. No amount of rhetoric can persuade us of the contrary. Still, *Brouardel's* attitude has received enthusiastic support in several quarters. *Preuss* considers it by far the best way out of the unpleasant difficulty, although he himself supplies a very strong proof that it is the circumstances of each case which must guide one in arriving at a decision and that *Brouardel's* proceeding is not a universal panacea. He managed in one case to prevent a marriage by pointing out to the individual in question that

a person who has sexual intercourse with another person while knowingly suffering from syphilis and who thereby infects that other person, is liable to punishment for bodily injury with criminal intent in accordance with § 230 of the German Criminal Code.¹ It is true that he only succeeded in preventing the legitimate marriage.

Nevertheless, there will always remain occasions when none of these remedies will be of any use and when the doctor will find himself in the dilemma of having to do violence to his personal humanitarian feelings or to break the law. A case from the practice of an American doctor illustrates clearly such a dilemma.

A young lady, 26 years old, suffering from tuberculosis of the kidneys asks the doctor: "May I marry? For the last seven years I have been half-engaged and I have always refused to get married. My intended husband went to America 5 years ago, since when he has written to me every year to come over so that we may become husband and wife, but I did not want to go. Now I have come, but I am afraid I am too ill to marry. What shall I do?" The doctor, taking into account the interest of the would-be husband and the probability that the married life of the couple in question would be an unhappy one, answered: "As long as you have refused to marry until now, you should continue to do so; at all events you must wait for some time yet." As the diagnosis was a difficult one, it might have been cruel on the part of the doctor to give a categorical negative reply and thus destroy the girl's future happiness. But supposing the girl would have wished to get married, would it have been proper for the doctor to reveal to her intended husband, either spontaneously or upon being questioned, what the state of her health was? No, the law forces him to be silent, although the interest of the community undoubtedly dictates that everything possible shall be done to prevent the spread of tuberculosis.

In another case of which I know, the prospective wife

¹Such a punishment (to 5 months' imprisonment) took place on June 6, 1903. Ministerialblatt für Medizin, etc. Novemb. 16, 1903.

brought her intended husband to the doctor so that he could be treated for his highly pronounced nervousness, as "they were going to be married in a few weeks." The extraordinary lack of understanding which is very often observed among the lay public in such matters, had allowed in this case the well-marked disorder of the speech characteristic of general paralysis, which the examination revealed, to pass unrecognised.

A disclosure of the whole truth would, in view of the passionate nature of the intended female partner, have been followed by most disastrous results, and a communication to her parents was prohibited by law. Whether the simple dissuasion from getting married in such a short time was of any use, whether the explicit statement that the patient required at the very least a prolonged recuperative period prevented the marriage from taking place, seems to me, judging from the incredulous smile of the would-be bride, rather doubtful.

That a frank communication on the nature of the complaint is a hazardous undertaking, that the fear of suicide is not without foundation, we see often enough from the columns of the daily press. The head-lines "A pair of lovers in death united" are not infrequently explained as I had occasion to read only quite recently, by concluding sentences such as this: "He wished to take his life on account of an incurable complaint from which he was suffering, and his affianced wife decided to accompany him into the next world."

What is the condition of affairs under different circumstances? A doctor receives one day a visit from a man who informs him that he has not come to consult him, but to ask him for his professional opinion as to whether a certain patient of his is a fit subject to marry his daughter. In cases of this kind *Brouardel* adopts a very convenient mode of procedure. He interrupts the questioner immediately with the words: "Do not mention any names, if it is a case of marriage, as I never answer such questions. But I do not wish you to interpret my words in an unfavourable sense as far as the person you are interested in is concerned. My rule is silence and to that rule I make no exceptions."

No doubt *Brouardel's* method is perfectly correct in the eye

of the law, and as such to be recommended. Nevertheless, many a medical man would wish to emulate the noble words of *Dr. Gaide* who advises a totally different course. This highly-esteemed Paris physician utters an energetic protest against this legally correct attitude. He says: "I should under such circumstances have no courage to obey the law, my conscience would command me to act differently and I should reply without hesitation: 'Do not give your daughter to that man.' I should not add another word, I should be imbued with the consciousness that I have not revealed a professional secret. But should the law punish me, nevertheless, I should call all the fathers of families to be my judges, and with head erect I should in my turn accuse the court which dared to punish me because I desired to save a young wife and her eventual offspring from an almost sure infection."

Brouardel also confesses that he feels sincere admiration for this noble sentiment, but he cannot help looking upon such a mode of action as punishable, no matter how worthy the motives may be. It remains—and about this there can be no doubt—a breach of confidence.

Although in a similar concrete case I should follow *Gaide's* example, I must agree with *Brouardel*. If anyone wishes to confide a secret, he naturally chooses among his friends only the one upon whose discretion he can rely. A patient has not such a choice, he does not know the ethical principles of his medical adviser, he only knows that the latter is bound to secrecy. This is why *Gaide's* attitude is all the more deserving of punishment. *Grassmann* (Münch. Med. Woch. 1899, No. 44 and 45) is quite right in saying that the most superficial consideration of the consequences of such conduct as *Gaide* advises is sufficient to show how easily the whole principle of professional secrecy would thereby be endangered.

I think I may therefore recommend to my medical brethren to preserve in a dilemma such as the above, absolute silence, if they do not wish to expose themselves to any danger. But if their inner consciousness, if a noble instinct impels them to do their best for the benefit of humanity, no one can point the finger of scorn at them, no one will think of them any the less,

although—and of this they must never lose sight—they undoubtedly commit a punishable offence.

The circumstances are, of course, different if a medical man gains the conviction that an individual who is about to marry is suffering from a disease, not in his capacity as medical man, but from information derived outside his profession, as one of the general public. In such a case he naturally has every right, if his interest lies that way, to convey his information to the parties concerned, for no secret has been entrusted to him in the exercise of his profession, and the communication made by him is not therefore illegal. *Grassmann* was actuated by this opinion in a case where the sister of an intimate friend of his was about to become engaged to a young man whom he (*Grassmann*) had on some festive occasion seen to be seized with an attack of hæmoptysis. Not being the medical adviser of the young man in question, *Grassmann* considered it his duty and his right to inform the relatives of the young lady of what he had observed.

The following situation out of which the medical man concerned extricated himself apparently with some difficulty, is a very peculiar one. (*Aerztl. Zentr. Anz.* 1897, No. 45.) He had treated a girl whose character was generally not above reproach, for miscarriage. Some time later as she was about to get married, the clergyman who had been asked to officiate at the ceremony received one day before the wedding an anonymous letter informing him of the bride's antecedents. The clergyman asked the doctor to tell him in confidence, if he could, whether this communication was true. If true, the girl could not be married in veil and wreath—the emblems of pure virginity. The doctor replied quite correctly that the law forbade him to make any communications, either positive or negative, upon anything which occurred in his practice. As to what conclusions the clergyman might draw from such an answer, it was not his business to inquire into, though it is obvious that there is only one conclusion possible. Yet, it is clear that no clergyman would simply on the strength of such a guarded answer decide finally to blast the character of a young woman by refusing to marry her in veil and wreath, and he would at

least consider himself obliged to make further investigations. Besides, the medical man might under circumstances of a like nature try and obtain his patient's consent to his supplying the information wanted from him.

Authorised communications.—What should be the attitude of the doctor if he receives from his patient a direct request to disclose the secret entrusted to him? Is he thereby freed from his responsibility?

According to German law the answer is in the affirmative. This being so, I cannot understand the standpoint of *Moll* who declares that the consent of the party entrusting a secret is not sufficient to relieve the doctor of his obligation to keep that secret. His argument is that if a doctor refuses to give any information unless he has the consent of the patient, the absence of this consent is a sign that the patient suffers from a complaint which he does not want others to know anything about. For this reason *Moll* is of the opinion that information should be refused under all circumstances, but I do not agree with this view and I regard communications made with the consent of the person concerned of enormous benefit all round.

We have already seen of what importance the decision of the doctor is in those cases where he is anxious to prevent misfortune, but circumstances may also arise where even an unpremeditated word on his part is capable of doing untold mischief. The following very instructive case is worth mentioning here:

A gentleman brought his fiancée to a dentist who supplied her with a set of artificial teeth. The dentist meeting the gentleman accidentally some time afterwards asked him how his intended wife was satisfied with the teeth. The immediate result of this was the breaking-off of the engagement. The dentist had naturally thought that the young lady's intended husband having brought her to him was aware of her defect, his surprise was therefore the greater when he realised what he had done by his unpremeditated question.

This shows how guarded one must be even in such professions which refer principally to matters of a cosmetic nature. Had an action been brought in this case there is no doubt that it would have gone against the dentist.

The doctor as an expert adviser.—I have already said that *Brouardel* is without exception silent to all questions of a non-consultative character. But although his attitude is very often correct, it cannot be said that it is so in every case. The modern tendency of fiction to give rise to vague fears by means of the oddity of the subject, by a confused knowledge on matters relating to heredity and the like, is not infrequently the cause which induces the relatives of hereditarily-predisposed persons who are about to marry, to apply to an alienist for his opinion as to whether the contemplated marriage is advisable or not. I can see no reason why the doctor should not listen to all the facts communicated to him under such circumstances. Nor do I think that he need hesitate, if necessary, to express his most energetic opposition, seeing what benefit he thereby confers on future generations, and not even the knowledge that his counsel will often be disregarded, should deter him from giving utterance to his opinion. For his function is merely that of an adviser.

But he must make use of his right to maintain professional silence where the relatives of one of the parties to a contemplated marriage supply him with particulars concerning their own family expecting in return information on the family of the other party who may be or who may have been under the doctor's treatment. If the decision of the inquirer depends upon this information, it is beyond the doctor's power to assist him without breaking the seal of the professional secrecy.

2. *After marriage.*

As an illustration of the corresponding state of affairs, let me mention the following tragic event.

A healthy young woman was, in the first night after her marriage, infected by her husband with gonorrhœa. Shortly afterwards a gynæcologist found it necessary to remove by laparotomy a purulent oophoritis and salpingitis. This severe transformation of the organism destroyed an excellent and hopeful life, mutilated a robust woman and condemned her to permanent infirmity.

Is not, the doctor asks, the disgraceful conduct of her husband a crime, though it goes unpunished? Does no public prosecutor raise his avenging voice? The answer is, no. It was in the exercise of his profession that the medical man in question acquired a knowledge of the facts of the case, otherwise he would never have known anything about it. May his indignation be ever so just and comprehensible, the law compels him to maintain absolute silence.

Incomplete relief from obligatory secrecy.—

Is an alteration of these conditions possible under different circumstances? Would the doctor's attitude remain the same if the wife in her endeavours to break the chains which bind her to her wretched husband, demands from her medical adviser a disclosure of the state of affairs before some court of justice?

Where the court alone requires his testimony, the doctor must ask himself whether he ought to make use or not of his right to refuse to give evidence. Where the wife alone calls upon him to reveal the secret in his possession, he must take into consideration whether she was the only party who entrusted that secret to him or whether the husband had a share in this transaction. This would certainly be the case if it was at his instigation that the doctor was consulted. That being so, the general opinion is that the German criminal law relieves the doctor of his obligatory secrecy even if the husband does not authorise him to give evidence. The question is, however, how do matters stand if the husband explicitly forbids the doctor to make a statement? As the answering of this question is of the greatest importance I think it advisable to narrate here the following real occurrence.

A married woman sues to be divorced from her husband, and she calls as witness her doctor to prove that her husband has infected her with syphilis. As a matter of fact the doctor had treated for syphilis the wife and her child, but not the husband. The wife expressly relieves the doctor of his professional obligatory secrecy, but the husband just as expressly forbids him to make any statement whatever. The consequence is that the doctor refuses to give evidence at the trial. He is called again, this time on the point whether he has a right to refuse to give

evidence. The president of the court declares categorically: "You must give evidence, you have no right here to refuse to do so." The doctor replies just as categorically that he believes himself within his right in refusing to give evidence in the matter as it was the husband who had brought him to the wife and the secret was consequently his as well. The latter could not therefore be divulged without his sanction, and this sanction he not only refuses to give but he actually prohibits the disclosure. The president thereupon declares that the court would direct the doctor as to what he ought to do, and he asks him for the last time whether he is willing to give evidence. The doctor replies with an emphatic "no!" On the application of the wife's counsel, the court is asked to decide that the doctor must give evidence whether the wife and child are syphilitic. Eight days afterwards—it took all this time for the court to come to a decision—a lengthy judgment was delivered by the third Civil Tribunal of the Provincial Court of Mainz¹, to the effect that the doctor was bound to give evidence as regards the nature of the wife's illness but not as regards that of the child. The reasons assigned by the court in its judgment were that the wife was perfectly in her right in demanding the witness's evidence as far as her own illness was concerned, the question as to where the infection came from, being of minor importance and not answerable by the witness. As to the child no such compulsion lay on the part of the doctor seeing that it could not relieve him of his professional obligation and that its natural guardian, in this case the father, refused to grant the necessary relief.

This noteworthy judgment is, however, representative of the opinion of one court only. Whether others will follow it I am rather inclined to doubt, my opinion being that the doctor in question acted quite correctly in obstinately refusing to give evidence so long as the husband who was a party to the communication of the secret was opposed to his divulging the same.

Compulsory medical evidence.—That courts of justice are capable of delivering most extraordinary judgments

¹October 22, 1901.

we see for instance in one emanating from the Hanseatic Superior Court. The latter has laid down the principle that the married partner who is in danger of being infected by the other partner with an infectious disease, may force his diseased partner to relieve his or her doctor from his obligatory professional secrecy, and that where he or she refuses to do so, the courts may under certain circumstances, so relieve the doctor concerned. The case lay so that Mrs. X. sued for divorce on the ground of adultery, and in order to prove the adultery she called Dr. Y. as witness to testify that he had attended her husband since his marriage for a severe and supposed incurable disease which he could have acquired only through an immoral mode of life. Dr. Y. when called refused to give evidence and justified his refusal by his professional obligatory silence from which his patient would not free him. The court was, however, of the opinion that the wife was entitled to the doctor's testimony and by an interlocutory judgment against Dr. Y. it was decided that he must give evidence. The judgment was brief and stated as follows:

"The right to refuse to give evidence has its justification in the confidential status of the doctor, and its object is to protect those who have occasion to confide in him. The doctor himself has no longer a legal interest in the matter if his patient frees him from his obligatory silence. The right of refusal to give evidence does not, therefore, apply if the patient has no legal claim to silence. Such a case exists where, as in the one under consideration, a husband suffers from a sexual disease which endangers the wife, because the natural object of the married union presupposes that no married partner should imperil the health of the other married partner. But where such an obdurate and almost incurable complaint comes into question, the wife cannot be expected to rest contented with what the husband chooses to tell her; she has, on the contrary, a right to demand full and instructive information which can naturally be given to her only by the medical man in attendance. The husband cannot consequently insist upon the doctor's silence towards the wife, as he has no right to deprive her of the possibility to obtain reliable information. If the husband refuses his

consent to the doctor giving evidence in court, the judge may pronounce this refusal as being legally without justification and compel the doctor to state what he knows."

Against this judgment Dr. Y. appealed to the highest court so as to have this important point finally settled, and the result was that his attitude was declared to have been correct and the decision of the lower court wrong. The reasons were somewhat as follows: There can be no doubt that the doctor who ascertains in his patient a sexual disease, becomes possessed of a private secret of such patient, the disclosure of which to a third person is, unless there are absolutely special indications to the contrary, not permitted. On the other hand it cannot be denied that, if this third person happens to be the husband or wife of the patient, circumstances may arise which may make it appear perfectly justifiable for the doctor to give to such husband or wife the information in his possession notwithstanding the patient's instructions to the contrary.

For just as there are legal obligations which may take precedence of the obligatory secrecy, so we must admit that there are higher moral duties to which the obligation of silence must give way. Thus for instance it may seem necessary to a doctor to inform a married woman of the sexual disease of her husband so as to prevent, by all possible means, her becoming infected. But the court below had gone too far in these generalities and erroneously assumed that married partners have a right always to demand from each other full information respecting their state of health. As regards Dr. Y. it might be said that a higher moral duty exists in his case too, making it desirable that he should not refuse his testimony. It must, however, be borne in mind that this testimony is not required in the interest of the petitioner's health, but in order to prove adultery and to facilitate the divorce from her husband. And although some might see a moral object in helping a woman to divorce her husband, if the latter has behaved cruelly to her, this is far from being a higher moral duty when compared with the obligatory professional secrecy, and might be extended to so many similar situations that there would be no room left at all for the principle of professional secrecy.

The concluding sentences of this judgment are of such immense importance that they deserve to be stored in the memory of every medical man. They show that the obligatory professional secrecy pursues a higher moral object than the endeavour to assist an injured woman in her desire to rid herself of a bad husband. But they also show that the Mainz judges in the above-mentioned case were wrong in forcing the medical man concerned to give evidence in court.

The employment of medical documents in courts of justice.—We may thus draw the conclusion that a medical man must consider very carefully whether he should communicate anything to a married woman respecting the cause and nature of her husband's illness without his permission, even if the communication appears desirable in the interest of the patient himself. The doctor can never know to what use his verbal or written information may be put under circumstances of a different character. In a divorce case which came recently before a French law-court, the wife found to her advantage to lay before the judges the letters from the medical adviser of the family. The French Court of Cassation, however, declared the proceeding as inadmissible¹ on the ground that although it might be allowed to a doctor to write confidential letters to the wife of a patient who is under his treatment, as to the state of the patient and the cause of the disease, if such a course is in the interest of the sufferer, these communications can under no circumstances be made use of against him. The doctor especially is by his obligation to secrecy not permitted to give his consent to such a publication.

Whether a German court of law would under similar circumstances have come to the same conclusion, it is not possible to say with certainty. Perhaps, it would, as the general principles of law which were here involved, apply in Germany as well. I should like to add expressly that a doctor, like all persons who are entitled to withhold their evidence, cannot by

¹13 July, 1897 (Pand. franç. 1897. I. 526). Wien. Med. Woch. 1898. No. 22.

force be compelled to produce any documentary evidence. He is consequently entitled to refuse to produce his case-notes.¹

It is therefore best for every medical man to adhere as strictly as possible to the rule of professional secrecy. *Bona-fides* will in a serious case not protect him, but may easily cause him very great unpleasantness. As an illustration of such a condition of things let the following painful experience of a Berlin practitioner serve as a warning.

A married woman consulted him on account of a vaginal discharge. An examination revealed a condom which had been left behind in the vagina. The doctor removed it and recommended vaginal injections. Meeting shortly afterwards the lady's husband with whom he happened to be on friendly terms, he jocularly warns him not to be so careless in the future. The confusion and astonishment of both men may be imagined when the husband assured the other that at the time in question he had not had any sexual intercourse with his wife at all. The result of the indiscretion was the dissolution of the marriage.

That such a breach of professional secrecy is bound to have most serious consequences as far as the doctor is concerned, is obvious, and yet the offence was committed unintentionally and in good faith. It is, however, far worse if such an act takes place with premeditation. In this connection, too, there is no need to construct a possible case. The events of real life supply plenty of material.

We all remember the sensational case in which the well-known London gynæcologist *Playfair* was mulcted in the heaviest damages ever known for divulging a professional secret. He had forbidden his wife to continue her friendly relations with a lady connected with them by marriage, because he ascertained during a consultation that she had had a miscarriage which could only have been the result of an adulterous intercourse. At the same time he communicated his observation to the lady's brother-in-law who was allowing her £500 a year since she had left her husband in Australia and come home. This allow-

¹S. *Plaseck*, l. c. and *Beling*, "Die Beweisverbote als Grenzen der Wahrheitsforschung im Strafprocess," Breslau. *Schlatter*.

ance was stopped in consequence of the communication from *Playfair*. Thereupon the lady, assisted by her husband who returned from Australia, brought an action for slander against *Playfair* who was condemned to pay damages to the amount of £12,000. The experts *Spencer* and *Williamson* did not find fault with *Playfair's* diagnosis, but they criticised his professional conduct, and although the English law has no special clause imposing secrecy on medical men, this severe pecuniary punishment was inflicted upon him with the result that it did considerable damage to his position and reputation.

The preceding remarks give but a faint idea of the importance of professional secrecy in relation to marriage and the married state, but they suffice to remind one at the same time of the enormous interest which the subject possesses from the standpoint of medical practice generally.

XXVII

The Economic Importance of Sanitary Conditions in Relation to Marriage

XXVII

THE ECONOMIC IMPORTANCE OF SANITARY CONDITIONS IN RELATION TO MARRIAGE

By **Rudolf Eberstadt** (Berlin)

I. The postulate of marriage.

Importance of the subjective views of marriage.—As *Senator* has already pointed out, we can distinguish three stages of the relationship between the medical adviser and the conditions of married life: (1) the contraction of marriage, (2) the preservation of the married state, and (3) the dissolution of marriage. In each of these three cases the doctor will often need more than medical knowledge; he will, as has already been stated by several of the contributors to this work, be consulted oftener perhaps by his patients on psychical than physical complaints, seeing that the prosperity of married life depends frequently enough on the preconceptions and suppositions which husband and wife entertain towards one another. Disappointments, misunderstandings, and antipathies are often nothing but the result of wrong views and standpoints which the doctor more than anybody else has it in his power to dispel. We may therefore begin with a few brief remarks on the foundations of matrimony.

Criticism of traditional conditions.—Every age raises points which appear to it especially in want of an explanation. For it is given to no civilized nation to formulate its institutions anew and on virgin soil; every period inherits institutions from periods preceding it, and these must be made the best possible use of. Living generations find themselves sur-

rounded by conditions which they have not created for themselves and which they often regard as unjustified and unjust.

Modern doubts on the subject of marriage.

—At the present time it is marriage particularly, in the form handed down to us by our predecessors,—the so-called traditional marriage—which is very often characterised as insufficient and contrary to the most liberal conception of the idea of a joint life. Quite a number of far-reaching problems are raised by this doubtful attitude on the subject of marriage, and there is no doubt that the tendency to “meditate on the matter,” the absence of confidence in the married state, has had most important results in regard to many of our social conditions. What are the legal and moral motives of marriage in its present-day form? Is the position which law and morality assign to-day to man and woman in their capacity of husband and wife compatible with the natural sense of justice? And is there any natural or moral justification especially for the difference in the status of husband and wife?

Jurisprudence and juridico-historical investigation have devoted but little attention to the questions discussed here. But the same cannot be said with regard to sociological literature, and we may say that the views generally prevalent to-day on matters matrimonial are mostly due to sociological utterances.

Sociological points of view.—There are above all, two factors which present themselves for sociological consideration, first the superior position of the husband from the standpoint of the marriage-laws and secondly the stricter view which prevails on the point of the wife's pre-nuptial chastity and conjugal fidelity. Man has among the generality of civilised nations a legal superiority in the marriage state; not satisfied with this alone he demands from woman sexual abstinence before marriage and absolute fidelity in the course of it. The woman who offends against these injunctions is despised and condemned, whilst for himself man does not acknowledge the same obligations or at least not the same unpleasant results on their contravention.

Further development.—From the consideration of these circumstances sociological investigation has arrived at the

conclusion that marriage in its present-day form has developed from lower forms and that the prevalent right of man is only the remainder of the older brutality and barbarism.¹

"Traditional marriage" appeared therefore only as a single stage of development in the progress of human institutions, a stage which is destined to give way to the next higher form of joint-cohabitation. In this further natural development it is first of all necessary that law and morality should place man and woman on a footing of perfect equality as far as their sexual relations are concerned; so soon as this equality shall have been established and irregular sexual intercourse on the part of woman will have ceased to be looked upon as derogatory, free love will, in the opinion of the evolutionist school, take the place of the traditional form of marriage.

Influence of the theory on man and woman.

—It must be at once admitted that there can be nothing more oppressive to a thinking and sensitive woman than the unexplained and therefore brutal-looking difference in the right of sexual intercourse of man and woman. May the emancipation of women bring them ever so many single concessions—against the difference in the interpretation of the word "honour" their moral sense will always rebel. When a woman is thus persuaded that she is unjustly treated she cannot regard marriage otherwise than with dissatisfaction. To man, too, the view that the difference in sexual honour rests only on force and brutality, is a great danger; a man may by such a conception of the matter easily be misled into refusing to acknowledge that "traditional marriage" imposes any moral obligations upon him.

Position of man in the law on marriage.—

Is it a fact that the evolution of marriage into its present-day form is nothing but a history of man's power and greed? Has man succeeded by his superior force in acquiring for himself

¹The first part of the hypothesis, namely, the derivation of marriage from lower forms, has already received at the hands of *Westermarck* most appropriate opposition, so that I have no need to go more minutely into this part of the subject. Compare *Ludwig Stein*, *Die soziale Frage im Lichte der Philosophie*.

a privilege from which he arbitrarily excludes woman? Sociology should have made it its principal task to clear up this point. Hypotheses, which science has already partially discarded, are of no good. As far as I know *Herbert Spencer* is the only sociological writer who has attempted to explain the prejudice which favours man in sexual matters. He does so by reference to the double marriages of the biblical patriarchs:

"Were it not for the ideas of sacredness associated with that Hebrew history which in childhood familiarised us with examples of polygyny we should probably feel as much surprise and repugnance on first reading about it as we do on first reading about polyandry."¹

That such an explanation should have been attempted is rather surprising. It is difficult to see how the marriage of the patriarchs can be compared with polygyny. The biblical example proves exactly the opposite of that which is intended, and the contrary could hardly have been better demonstrated. The patriarchal marriage just shows the natural difference between man and woman as regards sexual intercourse. Let us adhere to the example of the patriarchal marriages: Ishmael as well as Isaac has his father and his mother; Hagar as well as Sarah knows her husband and her child. The marriage of one man with two women possesses the foundations of family-life. But this would not be the case if a woman lived with two husbands. The sanctity of biblical history has not the slightest connection with these purely natural things.²

Foundation of monandry.—Our problem cannot be solved in this way. The disreputableness of mixed intercourse on the part of woman rests—if we proceed first historically—on a totally different basis. It is in the first instance the horror of the *commixtio sanguinis*, of the mingling of the blood, which civilised nations have always looked upon with disgust. A woman who cohabits sexually with several men destroys the line of succession, her children are fatherless. That a child

¹Principles of Sociology. Vol. I., p. 682.

²Moreover, we consider the form of the patriarchs' marriage of so little sanctity, that we punish the same most severely.

knows its mother is but natural, that it should also know its father is the business of law and morality.¹

According to the form in which a woman practises mixed intercourse, she is looked upon with contempt, scorn or disgust. The child, too, suffers from the consequences of this state of affairs morally, and often also physically. Irregular extra-conjugal intercourse is bound to have in most cases the same results as the mixed intercourse. Here also there is no guarantee for any material and psychical attachment between mother, father and child. The historical views on mixed and irregular intercourse result therefore in the first place from natural suppositions.²

Different positions of husband and wife.—

It is not therefore the brutality of man which has imposed upon woman a higher obligation, but it is the work of nature herself. Nature has constituted man and woman differently as regards the consequences of sexual intercourse. To woman

¹The assumption that the mixed intercourse of woman is reprehensible only because man desires heirs and the perpetuation of his race is so ridiculous that it hardly deserves any attention. It is sufficient to state that the opinion on the matter remains the same, whether it refers to heirs or to male or female children not entitled to inherit.

²Sexual intercourse may also be practised before marriage under the same obligations as after marriage. Pre-nuptial intercourse is occasionally permitted by popular custom or at any rate not considered dishonourable, if an engagement or promise of marriage has preceded it and there is an intention to marry. (Compare the descriptions of old Westphalian customs in *Immermann*, Oberhof, Edition 1858, p. 225). In the country and also in towns marriage is often resorted to when the girl is already expecting to become a mother. By a census undertaken in connection with two marriage-registries it was established that in Berlin more than 40% of all legitimate first-born children are conceived pre-nuptially. Compare Prof. *E. Hirschberg*. *Bilder aus der Berliner Statistik*, Berlin, 1904, p. 5; *Volkswirtschaftliche Zeitfragen*. No. 200.—Prof. *Hirschberg* observes in this connection with perfect truth: "Marriage before the registrar is a formality which in the eyes of large classes of people is of considerably less importance than the betrothal. Besides, many marriages are solemnized only because a child is expected and one must admit that this is a very healthy sign of a sense of morality. The promise of marriage is considered as equal to the act of marriage itself."—It hardly need be added that there is nothing in common between mixed or irregular intercourse and that of individuals who are engaged to marry each other.

only is the fruit thereof entrusted. But he who has special responsibilities, has also special obligations. Certain offences against conjugal intercourse are judged with greater severity if they are committed by the husband, others, again, especially those which affect the propagative functions, are regarded with more seriousness if the wife is guilty of them. Man and woman occupy for physical and unalterable reasons different positions in sexual life; seduction, abuse, wife-desertion and adultery are in man punishable both by law and morality. Woman on the other hand loses her honour through mixed and irregular intercourse as such only, because nature herself prohibits this mode of intercourse so that the moral and material ties binding together mother, father and child should not be unloosened.

Object of the devolution.—Historical and physiological reasons account therefore in civilised nations for the postulate of marriage, as for the greater responsibility of woman in the matter of sexual intercourse. The question, however, is whether this involves any detracting from the female honour. This is doubtless the case as a rule, where according to prevalent opinions woman constitutes, and is meant to constitute, nothing else but the bearer of children. And although nations which entertained such views, have also reached a high degree of civilisation, we nevertheless regard this position of woman as less desirable and as a sign of reactionary and inadequate ethical sense. But for all that, the further evolution of woman out of the lowest conditions of civilisation must not be looked for in sexual equality, but in mental equality. The husband must under no circumstances on the strength of the natural differences dictate to the wife to rest contented. In such marriages neither he nor she can attain a degree of perfection. The more we hold fast to the principle that certain differences in the sexual honour are founded on nature, the more we transfer the further evolution of marriage into the domain of the mind and of ethics.

Influence of ideal representations.—But this further evolution raises another question. No one knows better than a medical man that besides the real conditions, the ideal world must also be taken into consideration. We have already

pointed out above that ideal views and standpoints may be of the utmost importance to the conditions of married life. We have therefore to ask ourselves: Is it possible for future generations to effect a radical change in the circumstances discussed here?

It is conceivable to imagine ourselves transported into a future society which has wilfully discarded marriage in its present form and—as it is prophesied in many quarters—disassociated the married state from all legal consequences. There is no denying the importance of such a future ideal even to our present way of thinking. Would such a society which accords to marriage no legal privileges, no longer know conjugal life as we know it to-day? Is it possible that law and morality could ever regard free love as equal or superior to marriage?

We may safely assert that no civilised nation will ever know such a state of things. In the first place, no future society can escape the natural preliminaries—the peculiar position of woman as regards the conception and preservation of the embryo—and these must continue to exert their full force; nay, they must tend to grow in influence, as with the disappearance of the legal protection the ethical safeguards will require increasing.

Influence on the law.—Nor would it be possible to change for good those formal notions which determine the standpoint of the law. Those living in wedlock must necessarily always retain the upper hand over those living in irregular sexual conditions. Whether one is a thorough Darwinist or a strict believer in the Bible, the result must always be the same. The believer in the Bible will believe that marriage is a divine institution which is and must remain indestructible. The Darwinist must know that close family-combinations have a natural advantage over others and that they will always succeed in putting into force their views of law and morality. The respective numbers would form no criterion, although the individuals living in matrimony would always be in the majority. Before the combined forces and natural advantages of the regular families, the horde of the irregulars will fly and get scattered like chaff before the wind, without being able to exercise any permanent influence on the constitution of law and ethics.

The theory of evolution towards freer forms of sexual intercourse is being preached time and again so often and with such self-confidence as to give rise almost to a feeling of nausea. But even the historical observations made in this connection are in various respects incorrect. The physiological reasoning, too, is defective, and this is probably the severest loss to the whole hypothesis which appears in consequence untenable or at least in want of a radical transformation. There is also a third factor to be reckoned with. The evolutionist doctrine demands in all seriousness a modification of the law.¹

The preferential value of unrestrained sexual relations is of secondary importance. The object of the main campaign is to bring about a change in the laws regulating the traditional form of marriage. But such a change is, no matter how society is to be constituted in the future, impossible. This is due not to the prejudices and desires of man, but to natural conditions.

Criticism of the present-day social arrangements, especially of married life is justified, desirable and necessary; but it must not mislead, it must not be wrong in its premises, it must not aim at erroneous objects or attempt utopian reforms. The belief in the development of the relationship in the sense of free intercourse can bring to the present generation nothing but unrest and unhappiness, but even from a purely speculative point of view it lacks every justification.

In its legal basis marriage is incapable of further develop-

¹The evolutionists show themselves here, as always, most rabid legislators. Thus one of the more recent works says: "The only point which offers a permanent opportunity for the law to interfere, and in which the public authorities must undoubtedly have something to say, is the question as to the children. Every marriage-contract and every petition for divorce ought to contain satisfactory stipulations with regard to the care and support of the children under all circumstances, before they could be sanctioned by the public authorities." (*Carpenter: Wenn die Menschen reif zur Liebe werden.* 2nd edit. Leipsic, 1902, p. 222.) This means that in the society of the future everybody will be in a position to deposit sufficient securities to be devoted to the maintenance of an eventual family. Otherwise the "satisfactory stipulations" would have to assume such a severity that all the obligatory features of the traditional marriage would be mere child's play in comparison. (Compare the opposite view of *Ika Freudenberg*, in *Monatschr. "Die Frau,"* Novemb., 1903.)

ment. This further development lies exclusively on its ethical side which changes in accordance with the times. With the higher obligations which we impose upon the single individual, the claims which man and woman make upon the married state are bound to increase. This further evolution can, however, result only in rendering the conjugal and family ties firmer, not looser.

II. The different estimations of marriage.

Contrasts in the conception of marriage.—

Not every marriage is to be regarded as perfectly or equally valuable. We leave out of account here those marriages which are contracted without any inner attachment and merely for material or external reasons. In this place we are concerned purely with marriage from a sanitary aspect, and from the latter we can distinguish three views of the value of marriage: (1) the individualistic view, (2) the racial political view, and (3) the social and politico-social view.

The individualistic view regards marriage mainly or exclusively as an affair of the individual and relegates the contraction of marriage and its consequences to the personal will of the parties concerned.

As racial-political I consider the view which sees in marriage exclusively or principally a means for the improvement and preservation of the race and which endeavours to regulate the marriage-contract accordingly.

By the social and politico-social view we understand that which attempts to combine the interests of the individual with those of the community and to achieve for both of them the highest possible measure of prosperity.

The question is now which of these three views that we are about to discuss more fully, deserves the support of the medical profession. As a preliminary, I wish to state that as doctors we have to be familiar with all three; from each of them we can derive some impetus, and to each we must be able to do full justice.

Individualistic view.—The individualistic view seems to be the simplest; it recommends itself apparently by the consideration that marriage is intended for the welfare and happiness of the individual and that it is best to leave to everyone to look after his own interests. It is, however, easy to show that a fallacy underlies here as a rule. In marriage the welfare of one of the partners depends always on that of the other. The one-sided and dogmatic adherence of the individualistic standpoint is bound to result in harm to the individual himself. This view is as far as I can make out generally shared by the contributors to this work. I wish to mention specially the problem dealt with by *Kaminer*; it relates to the marriage and propagation of tuberculous persons, an instance which is eminently instructive in regard to the view under discussion.

But the individualistic conception must on principle be rejected not only in reference to transmissible or hereditary diseases and predispositions to disease, but generally where there is a danger that the partnership of marriage is likely to suffer through the physical or mental constitution of one of the partners. In no other connection is the principle of leaving well alone so little indicated as in matrimony.

Supposed teleology in disease.—It is certainly a mistaken exaggeration of individualism to entertain with regard to the marriage and propagation of diseased or tainted persons, the view that nature makes use of disease in order to arrive at a certain object, be that object the extermination of degenerate individuals or immunisation, and that it is therefore wrong to oppose the marriage of diseased individuals. This theory rests simply upon an error of judgment. It is one of those frequently observed cases where the theorist transfers the real or—which happens oftener—assumed action of nature to conditions of civilisation. In this instance it is not a question of impersonal natural tendencies but of highly personal processes of civilised life. How nature, if left to herself would go about it, we do not ask; natural circumstances do not demand here our attention. The opinion which attributes to nature the rôle of a reparative justice towards human actions is based in this case

upon a misconception. With the same right one might say that nature makes use of thieves and burglars in order to achieve a more just distribution of the world's goods. But the achievement of such a better state of things is not nature's business either in the one case or in the other. We do not live in a state of nature and cannot leave it to nature to put right human mistakes and wrong-doings. Besides, in practice we do not know what roundabout ways and how long nature takes to reach the goal prescribed to her; we do not even give her free scope, and we have no right therefore to inflict a mass of misery and misfortune upon entire generations, on the supposition that the diseased generation will eventually die out. There is hardly a worse sophistry than the introduction of the differently-interpreted term "nature" into subjects relating to purely human will-manifestations.

Racial-political view.—The racial-political view is almost diametrically opposed to the individualistic. We will now deal with it at some length, and at the same time broach a remarkable controversy which has recently arisen.

The opinions on the subject of marriage which are included in the designation "racial politics" are represented in most different political and scientific circles, and the proposals made by some of those who entertain them, are most revolutionary. It has been said, somewhat coarsely, with reference to this view that it tries to regulate human marriage in accordance with principles obtaining in horse-stables. Such criticism does not, however, prove anything. It would be altogether a mistake to deny to the ideas contained in racial politics every significance. There is much in them which deserves our most careful consideration from every point of view. It is already very meritorious to have called attention systematically to the interest of the community and to have pointed out the value of physical capability and resistiveness in a nation.

Connection with political conditions.—Racial politics become, however, suspicious to a certain extent through the outward circumstances under which they appear, and to this point I wish to make some reference. In history, as well as at the present time we find that racial-political demands are

generally made at a period and by nations which exhibit in a purely political respect unsatisfactory conditions. It is not from a consideration of the nation's condition but from the criticism of the political, legislative and public affairs that racial politics issue forth. They make their appearance, as a rule, when a regeneration of society is desired, in association with, and as a consequence of political doctrines. Racial politics grow not on physiological, but on political soil. It is sufficient to mention the undying and unalterable prototype of the racial politicians, the Utopian State of Plato. (See *Senator's* Introduction.)

For general reasons alone caution is, therefore, indicated in accepting the views of the racial politicians. What is specially risky is the favourite and, perhaps, unavoidable introduction of analogies from the olden times. For the laws of the ancient classical nations were not always meant to raise the character of the bulk of the people, but to create an aristocracy of citizens or race-propagators. These historical and indissoluble associations harbour in reality a certain contradiction of racial politics. A racial-political programme applicable to the constitution of modern States, has not yet been formulated, and it is very questionable whether one will ever be drawn up.

Opposition between racial-politics and hygiene.—We must mention on this occasion one difference of opinion which deserves our serious attention on account of the parties opposing each other. I refer to the recently started controversy between the representatives of racial politics and those of hygiene—two camps which would appear at the first glance more suitable for joint action and mutual support than for combating each other. The argument relates to the question whether hygiene and the measures associated with it, and which serve partly as a protection of the weak, are not calculated to lead to a deterioration of the race. This shows at once how the extremes meet. The strictest racial politics and the strictest individualism arrive at the same conclusion, namely that disease possesses as far as human society is concerned, a certain utilitarian value, seeing that it has selective results and that it eliminates the organisms which are of no good. But we have already seen how wrong it is to assign to nature an effect which

it cannot exercise in a civilised community at all or not with teleological certainty. For the rest, the opposition between racial politics and hygiene is based also upon differences of conception.

General objects of hygiene.—The foremost object of hygiene is to create the general preliminary conditions of sanitation and to avert injurious influences. This includes, for instance, the measures against the spread of infectious diseases and epidemics, the supervision of articles of food, the provision of water, sewage, etc. The different circumstances of the individual do not require consideration in this connection, it is the needs of the community and injuries to which the strong and healthy are exposed as well as the weak and the diseased, that demand our attention.¹ Nor are the differences founded on nature (in the real sense of the word) abolished by these measures. On the contrary, they continue to exert their specific effect (for instance the more injurious influence of town-life as compared with life in the country).² There can hardly be any doubt that the hygienic measures and precautions are here necessary and justified.³ The question appears to be only whether the steps taken in every single case in the name of hygiene are right or suitable. But as to the necessity of hygienic interference *per se* there are probably in this respect no two opinions.

Individual hygiene.—The hygiene which concerns itself with individual persons is of a different character to that which deals with general and more objective matters, and it engages the special attention of those who take part in the controversy which we are discussing. The question is often asked

¹See Gruber, *Führt die Hygiene zur Entartung der Rasse?* (Does Hygiene lead to the degeneration of the race?) Stuttgart, 1904, p. 26. Just as the best constitution is no safeguard against bullets, so there are many other injuries against which the body is simply powerless, for instance many poisons and some infectious germs. Health, disease and death are, therefore, purely matters of accident, whether one is affected by the respective injurious agency or not.—See also the article by Leppmann, and Grotjahn and Kriegel, *Jahresberichte über Soziale Hygiene und Demographie*, Vol. III. (1903), Jena, 1904. Vorwort, p. XII.

²Gruber, l. c. p. 4.

³Schallmeyer, in Ploetz's *Archiv für Rassen- und Gesellschafts Biologie*, p. 52 ff.

whether it is right to maintain or protect such lives as are physically bad or debilitated and to expend moreover large sums of money for the purpose. On this point I should like first of all to correct a mistake in the historical conception of racial politics. It appears there is a tendency to see something like false humanity in the endeavours of the modern era to protect the weak and the degenerate, and to compare them to their disadvantage with the arrangements in the middle-ages.¹

Historically speaking this is a mistake. The middle-ages can in charitable matters hardly be taken as an example of racial-political aims. It is well known that the Church, the towns, guilds, institutions and brotherhoods have in the middle-ages cared to an extraordinary extent for the weak and the poor² and the question is rather whether, considering the absolute increase of the population and the relative increase in the number of cases needing help, we have attained in this respect the same level as was reached by the middle-ages.—Nevertheless, the demands of the racial politicians contain here also an object which is justified and certainly deserving the support of the medical man and hygienist. Our first care is doubtless due to the healthy and not to the sick man, the aim being the creation of a capable and resistive population.³

But it is just where we want to draw practical conclusions that the above-mentioned deficiency of the racial-political view becomes evident. Its groundwork is in my opinion not really physiological, but political and social. The consequence is that the doctor who inclines to this view is apt to be induced to look at the matter from the standpoint of general social and economic conditions and to form his opinions accordingly both as regards individual cases and the interests of larger circles. In this way we have reached the third and last of the views with which we proposed to deal, namely the social and politico-social.

Politico-social view.—Social politics, where they are rightly understood, are by no means intended to lessen or render

¹See Archiv für Rassen- und Gesellschaft Biologie, 1904. No. 1, p. 155.

²Recent investigations have shown that also as far as the building of hospitals is concerned, the middle-ages have accomplished unheard-of things.

³See Grotjahn and Kriegel, l. c. p. xiv., and Leppmann's article.

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superfluous the activity and responsibility of the single individual. On the contrary, they ought to awaken and strengthen the sense of solidarity and responsibility in every one of us. Nor should they pursue any other object, in restricting personal liberty of action, than a greater measure of welfare for the entire community. The ultimate goal of every well-understood politico-social endeavour must be to obtain the best possible conditions for every single person, no matter whether it relates to the community as a whole or to its individual constituents.

III. Sanitary demands in detail.

Altered conditions of existence.—In discussing here certain demands in connection with circumstances which are a danger to the health of the individual and of the community, we do so entirely from the modern standpoint and looking at things as they are at the present day. An evolution of not more than 30 years' standing has brought about most pronounced changes in the outward circumstances of the population, which are visible above all, in the conditions of married and family life. There are two factors which are worth mentioning here: (1) an increased necessity on the part of the people to participate as bread-winners, and (2) a growing tendency of town-populations to become congested. As to the first point the following German statistics though nearly ten years old, are very instructive.

NUMBER OF PERSONS EMPLOYED ON AN AVERAGE IN THE
PRINCIPAL INDUSTRIES:

	Small industries (1-5 Persons)	Medium industries (6-50 Persons)	Large industries (51 persons or more)	Industries altogether
	Persons	Persons	Persons	Persons
Total sum 1895	4,770,669	2,454,333	3,044,267	10,269,269
" " 1882	4,335,822	1,391,720	1,613,247	7,340,789
Increase 'in 1895 against 1882	10.0%	76.3%	88.7%	39.9%
Increase in the population, 1882-1895 14.5%				

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The changes compared to the increase in the population are of considerable magnitude. The occupation-statistics also prepared in 1895 give in their main figures the following groups:

Of the population are	In the year 1895		In the year 1882		In % since 1882 Increase resp. decrease	
	Absolute	% of the population	Absolute	% of the population	Of the group	In proportion to the entire population
1. Employed in some principal pursuit	20,770,875	40.12	17,632,008	38.99	+ 17.80	+ 1.13
2. Servants . .	1,339,316	2.59	1,324,924	2.93	+ 1.09	- 0.34
3. Dependents .	27,517,285	53.15	24,910,695	55.08	+ 10.46	- 1.93
4. Independents without occupation .	2,142,808	4.14	1,354,486	3.00	+ 58.20	+ 1.14
Total.	51,720,284	100	45,222,113	100	+ 14.48	

Increase in the number of the employed.—

Only the two main groups 1 and 3 are of somewhat greater interest to us. Together they amount to 94.07% and 93.27% of the population. Whilst the absolute figures from 1882 to 1895 show a considerable increase, the percentage of the “dependents” in proportion to the population has gone down and the percentage of the “employed” has gone up. A further remarkable change becomes apparent if we distinguish the groups according to sex.

	Male persons		Female persons	
	1895	1882	1895	1882
1. Employed in some principal pursuit	61.03	60.38	19.97	18.46
2. Domestic servants	0.10	0.19	4.99	5.56
3. Family dependents.	34.83	36.49	70.81	72.94
4. Independents without occupation.	4.04	2.94	4.23	3.04

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Increase of female labour.—We see from this that already in the period 1882-1895 women have to a greater extent than men changed from the group of "dependents" to that of "employed." Since then this movement has in Germany become still more accentuated.

The following are the international figures giving the numbers of those actively employed in some occupation:

States	Year of census	Employed males. % of male population	Employed females. % of female population	Together. % of population
Germany	1895	61.1	25.0	42.7
Austria	1890	63.2	47.3	55.1
Hungary	1890	62.8	24.9	43.7
Italy	1881	66.3	40.2	53.2
Switzerland	1888	61.4	29.0	44.8
France	1896	63.7	33.0	48.3
Belgium	1890	59.8	26.2	43.0
Netherlands	1899	59.4	16.8	37.8
Denmark	1890	57.5	21.0	38.8
Sweden	1890	54.5	19.7	36.6
Norway	1891	55.8	23.6	39.0
Great Britain and Ireland	1891	63.4	26.8	44.5
United States of America	1900	61.3	14.3	38.4

These figures do not supply an exact comparison as the methods by which they are obtained are not alike in all countries. This is seen especially in the great fluctuations of the percentages of the females employed. On one point, namely the hours of labour and the duration of the employment, the statistics are altogether silent. It is, of course, of the greatest importance whether the hours of labour are 9, 10 or 12 a day. Then only those are numbered who are employed in some principal pursuit. At all events, the slight participation in labour by the women in America is a symptom which deserves our utmost attention. We may draw from this the inference that the raising of the social status of women is not, or not always, accompanied by an increased participation on their side in the modern occupational activity.

Increase in the employment of young persons and women.—The above-mentioned transition of "family dependents" into the class of "employed" persons is particularly well marked in the figures for Germany relating to so-called "protected" labour (the employment of women and young persons in factories and workshops).

YOUNG PERSONS (MALE AND FEMALE) EMPLOYED IN GERMAN FACTORIES.

(FROM THE REPORTS OF FACTORY INSPECTORS.)

Year	Children under 14 years		Young persons of 14-16 years		Adult women-labourers	
	Male	Female	Male	Female	From 16-21 yrs.	Above 21 yrs.
1896	3343	1969	159,214	80,334	270,266	429,313
1897	3770	2381	172,398	87,172	280,682	452,227
1898	4301	2771	184,502	91,884	288,553	475,995
1899	4497	2911	196,481	98,664	297,387	501,021
1900	5854	3395	225,146	103,032	311,041	522,578
1901	5876	3578	235,369	100,543	310,211	537,175

It is necessary to mention that these figures refer only to persons employed in factories, as so-called workshop-labourers are not on the whole subject to the protective regulations of the industrial by-laws. The large numbers of home-workers are, therefore, not included, although they have recently in various industries increased very materially.

We thus see in various directions a constant increase in the number of those who work for a livelihood, which affects the women particularly. I cannot enter here into a minute discussion of the causes which render this increased activity necessary; they belong to the problems associated with capitalistic political economy.

Congestion in towns.—The second of the above-mentioned factors, namely the congregation of the people in towns, makes its influence felt in two directions especially, i. e. the question of housing accommodation and the question of food. We can only touch here briefly the wide subject of dwelling-houses in towns, and only in so far as it affects the sanitary

and economic conditions of the population. Very few of the inhabitants of towns own the houses they live in, the vast majority of them are "tenants" in whose domestic budget the yearly rent forms a very considerable item and one which is constantly growing on account of the incessant raising of rents.¹ The necessity of finding more money to meet this growing expenditure for rent, causes many families either to retrench in other respects or to look for additional or home work in order to earn more. From a social and sanitary point of view the conditions among which the people dwell are often totally unsatisfactory. Even where it is not a question of unhealthy and overcrowded rooms, the feeling of home-comfort in the small and middle-sized dwellings is frequently diminished or destroyed.² Theoretically, everybody recognises the radical importance of the housing accommodation on married and family life, practically a great deal remains yet to be done. On a par with the changes in the housing arrangements is the revolution which has taken place in the manner of life and the nutrition of the people. This, too, is the ultimate result of the altered economics, of the transformations in the abode, in the employment and in the industrial life of the populace.³

Recent changes and their consequences.—

The changes in the state of the population of which I spoke above as having taken place during the last generation, are of such a nature that the period about the year 1870 already seems in many respects to lie a long way back in history. But we cannot say that we have as yet fully benefited by the changes mentioned. The measures by means of which we try to combat the drawbacks of the modern developments have so far the

¹In Berlin rents have gone up from 103 marks per head of the population in 1870 to 197 marks in 1901, an increase which naturally affects chiefly the lowest classes, but which the middle class also feel very severely.

²Translator's note: To the English reader this opinion of a German author presents considerable interest, as there is a tendency in some quarters to introduce the continental system of housing accommodation in the shape of large barrack-like buildings. It is as well to know that flats are not appreciated by those who have had a longer experience of them.

³See *Grotjahn*, *Über Wandlungen in der Volksernährung*, Leipsic, 1902, and my "*Rheinische Wohnverhältnisse*." Jena, 1903, p. 46.

character of corrective remedies, of attempts to deal outwardly with single incidents. But the problems of modern life require a treatment which reckons consciously with accomplished results. *Senator* in his Introduction has rightly pointed out that not the individual only, but also the State and the community, should devote increased attention to the somatic conditions of married life, since this is dictated in the interests of public health. We shall now deal briefly with a few of the necessities of a social character.

Employment of women.—The duties which woman has to fulfil in her natural capacity require a special protection of the female sex in connection with labour. The West-European civilised countries have already known such protective regulations under the simple conditions of guild-life; in industries associated with severe physical exertion the employment of women was sometimes altogether prohibited.¹ The protection of the industries carried on by guilds or other capitalists became, however, partly obsolete at the end of the 18th century, and partly purposeless. Technical progress with its cheap labour appliances brought about a new condition of affairs which necessitated authoritative regulations. In the course of the 19th century new protective laws were, especially under the guidance of England, evolved gradually, the legislation of the civilised countries created in this connection a class of labourers which may be described as in need of protection, and which included first children, afterwards young persons and later on the female sex generally. The protection of female workers consists in fixing a limit to their hours of labour which is different in different countries; in prohibiting their employment in occupations which present risk to health or morality; in prohibiting the employment of women shortly after child-birth.² These protectives are, however, incommensurate with our present-day conditions and their extension is urged in various

¹See my "Französisches Gewerberecht vom 13ten Jahrh. bis 1581, p. 100. Other protective regulations will be found in the Index of that work under the entry, "Arbeiterschutz."

²See the article by *Leppmann*.

quarters, although it must be admitted that such a course presents considerable economic difficulties.¹

Tuberculosis and housing accommodation.

—Among the diseases which it is necessary to combat by public and social measures, tuberculosis occupies the front rank. Social politics have already taken a prominent part in the struggle against tuberculosis. Much has already been done towards futilising this dreadful scourge, by reducing industrial and occupational dangers, by making better provision for the suffering sick, and by the introduction of preventive measures against the spread of infection. The special scientific aspects of this question having been fully dealt with in other parts of this work, I should like to say something here about a factor of more general importance, namely the rôle played by the dwelling-house as a transmitter of disease-germs.

Dwelling-houses and disease.—The injurious influence of the dwelling-house may effect a transmission of disease in two ways: (1) through the manner in which the dwelling-house is made use of, (2) through the deficient state of the dwelling as such. The great majority of tuberculous persons remain with their families not only during the milder stages of the disease, but up to the fatal end. During the year 1900 only 10,286 out of 70,602 persons who died from tuberculosis in Prussia, that is about one-seventh, died in public institutions, the remaining six-sevenths stayed in their own homes until they passed away.² This means that the whole process of the disease takes place as a rule within the walls of private dwelling-houses and amid the relatives of the patients.

There are no general available figures with regard to the housing accommodation of tuberculous persons; it is at any rate no better than that of the healthy classes in full possession of their earning capacity. The few isolated descriptions of the dwellings of consumptives which are occasionally published, reveal a very unsatisfactory state of things, and this is particu-

¹See Adele Gerhard and Helene Simon, "Mutterschaft und geistige Arbeit," Berlin, 1901, p. 5; Alice Salomon, soziale Frauenpflichten, Berlin, 1902, p. 64 and p. 101.

²Kayserling, Tuberculosis, I, 1903, p. 250.

larly the case with regard to the home-work carried on in these dwellings. In some places an attempt has been made to deal statistically with the housing accommodation of the tuberculous. Such a table has for instance been prepared by one of the sick-clubs (tradesmen and chemists) of Berlin, giving a special place to the group of sufferers from pulmonary complaints, and though it is based upon a limited material it is none the less worthy of attention. The statistics deal with 11,167 members disabled through disease.

	Living in families				Night-lodgers			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Pulmonary diseases . .	884	17.71	725	15.54	186	17.22	73	16.98
Diseases of respiratory organs	467	9.36	484	10.37	76	7.04	39	9.07
Diseases of nervous system	272	5.45	313	6.71	55	5.09	34	7.91
Other diseases	3368	67.48	3144	62.38	763	70.65	284	66.04
	4991	100	4666	100	1080	100	430	100

The question raised in connection with these statistics "Has the patient a bed at his or at her entire disposal?" was answered in the negative by 957 men = 15.76% and 1038 women = 20.36%. Among these were 193 men and 193 women suffering from pulmonary affections; 18.03% of the men and 24.19% of the women with lung-disease had to share their beds with other persons.

A table prepared for Mannheim by *F. C. Freudenberg* and arranged in 5 groups according to the housing-accommodation,

POPULATION IN DWELLINGS CONSISTING OF

Six or more rooms	4-5 rooms	Up to 3 rooms, and containing		
		Less than 2 individuals	2-3 individuals	More than 3 individuals
		Per room		
% 10.3	22.2	23.4	34.0	42.2

gives, after omitting all children up to 5 years of age, the preceding percentages of mortality.

The connection between dwelling-accommodation and the mortality from tuberculosis is here strikingly apparent. A similar result is shown (according to Dr. *Schott*) if the density of the house-population is taken as the only basis, but no connection can be shown to exist between the age of the houses and the mortality from tuberculosis.¹

Transmission of disease.—The risk of infection through the intermediary of the dwelling-house is also increased by the frequent change of tenants in large towns. As to the dangers arising from the exercise of a home-industry in infected rooms and the possible transfer of disease-germs to the articles there manufactured, attention has already been called to them above.

State of the dwelling.—Of great influence is further the constitution of the dwelling as such. The use of the dwelling may be free from all objections; the tenant may scrupulously carry out every medical and hygienic prescription. And yet the dwelling may in itself be possessed of a serious drawback owing to the circumstance that its situation is faulty. Among the conditions which the situation of a dwelling-house must fulfil, it is generally recognised that sufficient light and sunshine take a prominent place. There is, however, another circumstance which is hardly less important, though it does not receive the attention it deserves, namely the provision of a cross-ventilation inside the dwelling. *Naegeli* has already pointed out the great hygienic value of such a ventilation, but the number of houses in which it is disregarded is not only great but is actually growing. The reason lies in the requirements of the building-plans in vogue, and medical men and hygienists should make it their business to bring about the necessary modifications. There are no insuperable difficulties of an economic nature in the way, the high rents paid by the tenants being sufficient to command satisfactory housing arrangements.

¹Zeitschrift für Wohnungswesen. Vol. II, 1904, p. 88.

Sanitation and marriage.—The object of the present work as enumerated in the Introduction, is to consider sanitary questions as they have any bearing on marriages and the married state. For this reason several of the contributors have found themselves confronted by a consideration which has often engaged the attention of medical men as well as of the lay public, i. e. the question whether on legal and politico-social grounds the contraction of marriage ought not to be made dependent upon the presentation of proofs that the bodily health is good or that there is at least an absence of such diseases which may be a source of danger to the other married partner or to the eventual children.

Certificate of health.—This is doubtless one of the most important problems ever brought forward, and such an amount of material has been collected in these pages towards its solution as we have never before had at our disposal. The introduction of health-certificates for marriage purposes would be an inauguration of the most far-reaching importance; it would constitute a radically new departure such as our present legislations have never possessed. It must, therefore, be admitted that the subject requires our most careful attention. In passing, I should like to add that the contributors to this manual are unanimously in favour of the innovation and some of them have even vigorously advocated its introduction.

Definition.—By a marriage-certificate of health we should understand a document which would state that the bearer of the certificate, having the intention to get married, has subjected himself to a medical examination on certain points, the result of which, whether positive or negative, would be entered in such document. As to the details of the examination and the questions to be answered, this must be left to the consideration of the legislature. On points other than those prescribed, the doctor would have to remain silent. But on the other hand it would have to be understood that no responsibility, medical or legal, attaches to a medical man through the fulfilling of this duty, provided he acts *bona-fide*. This certificate would have to be handed by the candidate for marriage to the other intended partner or to his or her authorised legal representative.

At the celebration of the marriage the officiating person would have to satisfy himself that the health-certificate has been duly handed over, without it being necessary for him to inform himself as to its material contents.

No prohibition of marriage.—The question arises, what would be the consequences if such marriage-certificates of health were introduced. I need hardly say that such certificates have absolutely nothing to do with the proposal to prohibit the marriage of individuals affected with certain diseases or who are generally of feeble health, a proposal made by some extremists. Such a suggestion cannot be taken seriously. Whether a prohibition of marriage is theoretically feasible, may be left an open question; practically it would, at all events, as some attempts in that direction have shown, fail to achieve the desired result.¹ It may be possible to prohibit a man from marrying, but not from practising extra-conjugal intercourse or from procreating children. The idea of a marriage-certificate of health is radically opposed to that of the prohibition of marriage. It does not propose any interference with the free will of the parties contracting the marriage.

Marriage in spite of ill-health.—The certificate is not even intended to prevent the marriage absolutely, if the state of health of the applicant is unsatisfactory. Those who persist in their intention to marry, although they are aware of the real condition of affairs, may do so. There are numerous cases where in spite of the physical weakness or imperfections of one of the partners, the marriage may be desirable or where it may turn out perfectly happy. Such marriages may be dictated by pure attachment and considerations of health are then rightly ignored. An example of this kind has been furnished by *Ewald* in his article (p. 436) which was as remarkable for its motives as it was happy in its results. The receiver of the certificate is left free to act according to his or her discretion; in this respect there would be no change from the conditions as we know them to-day.

¹See the articles by *Ledermann*, *Eulenburg*, and *Leppmann*.

Consequences of the innovation.—The intended and probable effect of the introduction of such certificates will be: (1) that greater regard will be paid as a rule to the conditions of health than has hitherto been the case, and, (2) that frivolous or unscrupulous conduct on the part of diseased candidates for marriage will as far as possible be prevented. This double object is certainly of sufficient importance, and it can be achieved without difficulty or serious trouble. We must look at the thing from the standpoint of recent experiences and from that of developments actually accomplished. As already mentioned at the commencement of this chapter our modern views of life and economics have created social conditions from which we must draw the above conclusions. Particularly the sexual diseases have, for reasons which it is not necessary to discuss here, assumed the character of destructive epidemics which constitute a growing danger to individuals as well as to the public health. Here the certificate of health would act as a beneficial measure of the deepest importance, and it would tend to remove or ameliorate evils which cannot be obviated in any other way. The results could not be otherwise than favourable. There would be more caution in sexual intercourse; the sense of responsibility for one's own health and for that of others—which seems in this connection to be especially blunted—would become appreciably revived and strengthened.

Of course, it is possible that mistakes and deceptions will arise in various directions in the granting of the certificates of health, but absolute success cannot and should not be expected here any more than in other human institutions. The certificate is not, moreover, by any means intended to be a guarantee of the state of health of the person examined. This is impossible for external reasons alone; an infection may, for instance, take place between the granting of the certificate and the contraction of the marriage, be the interval ever so short, or it may occur after the consummation of the marriage. It will be altogether more correct to describe the certificate of health only as a politico-social measure which is necessitated by certain fixed social evils. But these measures are not calculated to solve the

various civil and criminal questions which have recently been raised in reference to the sexual intercourse of diseased persons.¹ The two objects are altogether different.

Practical realisation.—As regards finally the realisation of the suggestion, there do not seem to be any considerable difficulties.

The number of marriages contracted in the German Empire in 1901 amounted to 468,329. That the granting of the certificates of health would involve an excessive activity of the medical profession is hardly likely. I mention only that the sick-clubs alone (with a membership of 9.6 millions) had in 1901 to deal with 3,617,022 cases of disablement through disease. Compared to the entire population the examinations for marriage-certificate purposes would hardly mean more than an increase of 4.5% in the medical activity. The number of medical men in Germany was in 1902, 29,133.

One point, however, requires some consideration, namely whether a certificate of health should be presented by both parties to a marriage, in other words by both sexes. *Neisser*, whose excellent investigations on this subject are particularly worth studying, seems to incline to the opinion that the question must be answered in the affirmative. But I believe that such a regulation would meet with almost insurmountable opposition, and that the necessities of the case do not indicate it absolutely. In the first place there is an objectionable feature in submitting an innocent young girl to a physical examination, and this objection would no doubt be shared by all the parties interested including the prospective husband, wife and parents-in-law. Besides, the facts do not appear to favour the necessity of such a requirement. Regarding gonorrhœal diseases even *Neisser* arrives at the conclusion that, excepting prostitutes, these affections are prevalent among women to a far lesser extent than among men, and that it is the husbands who are responsible for their injurious effects upon the married state. If we bear in mind, therefore, what is practically realisable and absolutely necessary we shall conclude that the introduction of marriage-

¹See the articles by *Ledermann* and *Neisser*.

certificates of health for the male sex is a desirable innovation from the standpoint of the medical man and the hygienist.

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